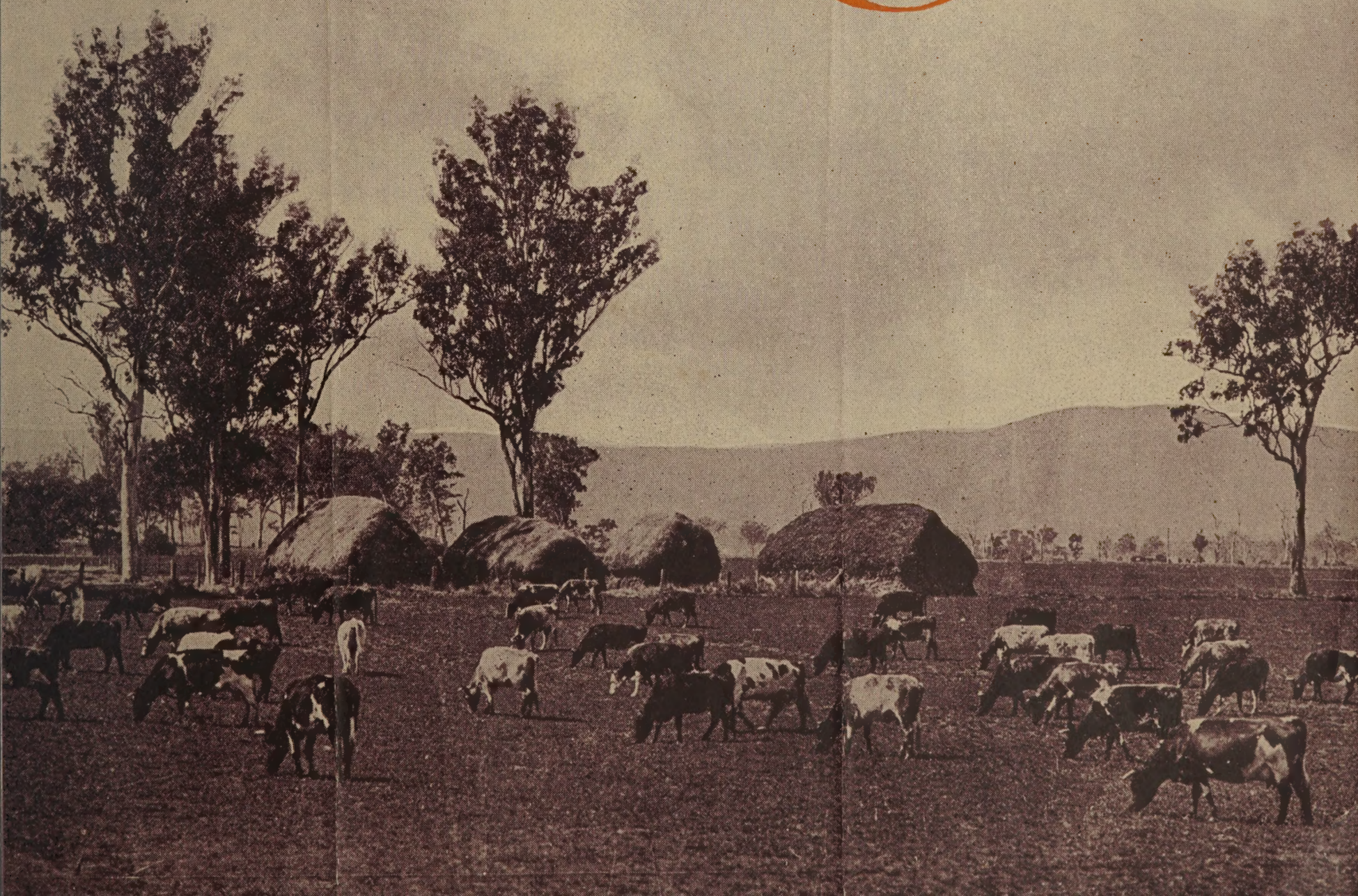
63.9
Australia
1926

1926

LIBRARY
RECEIVED
★ OCT 6 1926 ★
U.S. Department of Agriculture.

Yates Book of

FODDER & GRAZING CROPS



YATES' BOOK OF FODDER and GRAZING CROPS

SPRING, 1926

CONTENTS

	PAGE
Artichokes	21
Australia's Heritage	2, 3, 4
Barley	24
Beans	28
Beet (Sugar)	23
Buckwheat	21
Burnet (Sheeps)	21
Calendar	4
Carrot (Field)	23
Clovers	10, 11
Cow Peas	13
Grain (Seed)	24
Grain Sorghum	19
Grasses, Pasture	5–9
Implements	32
Kudzu Vine	14
Lucerne	12
Lupins	14
Maize	16
Mangolds	23
Manures	31
Market Garden Crops	28–29
Millet	17
Mustard	21
Oats	24
Peas, Field	14
Peas, Market	29
Peanuts	14
Potatoes	27
Pumpkins	21, 28
Rape, Sowing	22
Root Crops	23
Rye Corn	24
Saltbush	25
Seed Sowers	31
Sorghums	18, 19
Soy Beans	13
Sprays and Pumps	30
Sudan Grass	20
Sundry Fodder Crops	21
Sunflower	21
Swede Turnips	23, 29
Tares	14
Trees	26
Turnips	23, 29
Velvet Beans	13
Wheat	24

TERMS AND CONDITIONS OF SALE

PRICES—

We do not print prices in this Descriptive Catalogue as values fluctuate and some of our supplies have not been received into store at time of going to press.

All charges are as set out in our Current Price List of Farm Seeds at time of booking order unless specially quoted otherwise.

The Price List now current is sent you herewith, and later issues will be posted promptly on receipt of enquiry.

DELIVERY—

We deliver Seeds on rail or wharf Sydney, after which Seeds are on customer's account and at his risk. Orders sent by goods train are consigned carriage forward (except to unattended platforms), unless we are otherwise instructed at time of order.

Delivery within the Suburban area of Sydney will be made of Farm Seeds, Seed Potatoes, Manures, and Garden Sundries, at the following charges: —6d. for 14 lbs., 9d. for 28 lbs., 1s. for 56 lbs., 2s. per cwt.

FORWARDING INSTRUCTIONS—

Please give full and careful directions with each order and we will do our utmost to comply with them. **When no instructions are received we send according to our judgment.**

POST TOWN and SIGNATURE—

Be sure your order bears these particulars before posting. Where postal address is different to address to which goods are to be forwarded please give both.

REMITTANCES—

Orders should be accompanied by remittance for the approximate value of goods, and freight to be included when order is to be sent by coastal steamer, passenger train or by rail to unattended platforms.

Remittances should be sent by Money Order, Postal Notes or Cheque (on country cheques please add exchange).

Our terms for Agricultural Seeds are strictly Nett Cash. Grass and Fodder Seed (except Seed Grain) are invoiced at net weights and bags charged for. This is to buyer's advantage.

CORRESPONDENCE—

We are always pleased to advise customers and assist them with any information at our disposal, but we ask that letters of enquiry be as concise as possible, and that they be written separately from orders to avoid possible confusion and delay.

CONDITIONS OF SALE

And Non-Warranty—

We believe that all Seeds, Bulbs, and Roots sold by us are of the description and kind specified by us at the time of sale; but owing to the practical impossibility in many cases of being certain of this, we give no undertaking that such Seeds, Bulbs, or Roots will correspond with the description under which they are sold, and we make all sales subject to this condition. We further give no warranty, expressed or implied, as to their growth, description, quality or productiveness, and will not be in any way responsible for the crop. If the purchaser does not accept the goods sold to him on these terms, they are at once to be returned to us, and any money paid to us will be refunded.

ARTHUR YATES & CO. LTD.

SUPPLIERS OF RE-CLEANED AND TESTED FARM SEEDS

184-186 SUSSEX STREET, SYDNEY, N.S.W.

LETTERS—G.P.O. BOX 2707C

TELEGRAMS—"SEEDSMAN, SYDNEY."

Consider Your Stock

CONSIDERING the bounteous season enjoyed in New South Wales and the Southern States during the past half-year it is quite probable that drier conditions will ensue towards the end of the year. This means that the succulent, luscious feed now so abundant will rapidly vanish and become brown, dried up straw, decidedly unpalatable to stock after the green feed to which they have been accustomed during the winter and spring.

With the number and variety of summer fodder crops now available, much can be done to provide a more or less continuous supply of green feed throughout the year. This increases the carrying capacity of the farm as well as being of great benefit to the health and condition of stock in general.

Sudan Grass fills a very big want in this respect, and its drought resistance and usefulness for green feed are quickly becoming more generally known. Among the leguminous crops Soy Beans are now commanding more attention, and the improved varieties offered herein should undoubtedly widen their useful range of application. It will be noted that our list of Sorghums contains all the latest approved sorts as well as the older ones.

Surely with such a variety of fodder crops from which to choose, more green feed should be grown for the benefit of stock during the hot arid months of the year.

We send you this 1926 Edition of our Spring Fodder Book, confident that it will be of assistance and trusting that it will lead to a still more widespread use of Fodder Crops and to still Greater Returns from your stock and produce.

ARTHUR YATES & CO., LTD.

AUSTRALIA'S PASTURES

THEIR MAINTENANCE AND DEVELOPMENT

[A year or two ago A. E. V. Richardson, M.A., D.Sc., contributed to the Journal of the Victorian Dept. of Agriculture an interesting and instructive article, which appeared in Yates' Book of Fodder and Grazing Crops of that year. As pasture grasses and the improvement of grass lands are now matters of widespread interest, we need make no apology for reproducing this article, which is shortened and condensed from the original, and contains all its salient points.]

GRASSES are nature's forage, the healthiest and most nutritious food for stock. Grasses form the natural pastures of Australia, and are thus the basis of national income because they support practically the whole of Australia's great primary industry, the breeding and growing of sheep and cattle. Grasses therefore, and the study of the principles underlying their successful production, are worthy of the greatest attention.

AUSTRALIA'S HERITAGE OF GRASSES AND FODDER PLANTS

Australia's native grasses are justly famous for their grazing and their drought-resistant qualities. They are noted for producing the finest and best wool in the world, and for withstanding great extremes of heat and drought. No other plants have proved equal to our own for the drier parts, and the success of our pastoral industries depends on the native grass pastures, the indigenous salt bushes, and other edible forage plants. Though the native pasture plants of the interior are unrivalled for their wool producing qualities, in the moister coastal regions introduced grasses and fodder plants thrive exceptionally well and should be used to the best possible advantage where soil and climatic conditions are favourable.

IMPORTANCE OF SOWN GRASSES IN EUROPE.

The importance attached to the sown grasses in the United Kingdom is readily shown by the following figures :—

Total area under crop and grass ..	48,000,000 acres
Area under permanent Pasture Grasses	28,000,000 acres
	=58% of above.

Of the remaining 20,000,000 acres of arable land no less than 7,000,000 are given up to the cultivation of clovers and grasses in rotation.

It is remarkable, in view of the above facts, that so very little has been done to develop varieties of forage grasses ; most of those cultivated being identical with the wild forms ; for instance, there are probably 1000 varieties of wheat and 500 of maize, but only one of Cocksfoot or Timothy Grass.

ECONOMIC VALUE OF GRASSES.

The great economic feature of grasses is that they provide a method of feeding live stock at low cost, because of their perennial nature, and because little labour is required once the pasture is established ; and they help to restore fertility to soils depleted by more or less continuous cropping. This latter is particularly true with respect to the restoration of nitrogen and organic matter, but with respect to mineral elements of nutrition, grazing does not add a single pound of these elements to the soil, though the grazing of pastures may lead to a concentration of mineral nutrients near the surface, owing to the action of the deeper rooted grasses in bringing these from the under sub-soil.

DETERIORATION OF GRASS LANDS.

It is commonly observed that many of our native pastures show signs of deterioration. The quality of the herbage has fallen off, and, in many cases, the live stock thereon show evidences of malnutrition. Natural pastures deteriorate in several ways :—

1. Overstocking and injudicious grazing.
2. Continual removal from the soil of the elements of nutrition by the annual crop of wool, lambs, and fat stock without the replacement of these nutritive elements by means of fertilizers. In addition, in the heavier rainfall districts certain mineral nutrients, *e.g.*, nitrates and lime, are actually leached out of the soil by the heavy rains.

Let us briefly consider these cases.

OVERSTOCKING.

By injudicious grazing and overstocking, the better and finer grasses tend to disappear, and poorer types of indigenous vegetation and weeds are left in possession of the land. Overstocking is bad enough in normal seasons, but in drought years it leads to disastrous results, for at such times the better types of native grasses are eaten or killed out owing to their slow growing and non-seeding habits, and are replaced by sundry grasses and plants of low grazing value. So marked is this change in some districts that it has detrimentally affected land values. Comparatively small paddocks are of great advantage in compelling stock to graze the herbage uniformly. The conservation of fodder is also of great value if it be done economically and efficiently, for in favourable years millions of acres in the interior are covered with grass and herbage in such profusion that the stock cannot consume half of it.

DEPLETION OF MINERAL NUTRIENTS IN SOIL.

The amount of mineral nutrients removed from the land by the annual crops of live stock, wool, etc., is considerable, and unless replaced by artificial fertilizers, gradually reduces the fertility of the soil. Of these nutrients the phosphates are of special importance on account of the low phosphate content of Australian soils. Taking the State of Victoria as an instance, approximate figures show that about 360,000 tons of phosphoric acid have been removed from the pasture lands in the past sixty years, and that to restore their phosphate content to what it was at the beginning of that period would require nearly 2,000,000 tons of superphosphate.

IMPROVEMENT OF GRASS LANDS.

Grass lands may be improved in three ways :—

1. Sowing down with (a) Native Grasses, or (b) Introduced Grasses.

(a) NATIVE GRASSES.—Over the greater part of the continent climatic conditions are too severe for the successful sowing of most introduced grasses, but, as our knowledge extends, certain introduced plants are being found most useful under climatic conditions and on soils hitherto considered unsuitable. Notable among these are Subterranean Clover and Wimmera Rye Grass in winter rainfall regions, and Sudan Grass and probably Tall or Giant Fescue Grass in those regions with a summer rainfall.

The native grasses and fodder plants, however, will thrive on the drier areas. The seeding of native grasses is a difficult and expensive matter on account of the low vitality of the seed, *i.e.*, its low germinating power and the scarcity and high price of the grass seed on the market. The type of native grass that can be sown to best advantage is dependent mainly on the amount of rainfall and its seasonal incidence. In the summer rainfall region of Northern Australia the dominant species are the Panic Grasses (*Panicum*), Mitchell Grass (*Astrebla*), the Blue Grasses (*Andropogon*), and the various species of Erianthus.

AUSTRALIA'S PASTURES—Continued

In the winter rainfall zone of Southern Australia the predominating native grasses are the various species of DANTHONIA (Wallaby grasses), AGROSTIS (the Bent grasses), ANTHISTHIRIA (Kangaroo grasses), STIPA (the Spear grasses), ERAGROSTIS and POA. The various species of DANTHONIA are, perhaps, the most useful of grasses suited to the southern areas. They furnish a great quantity of winter feed, which is highly palatable and nutritious for sheep. The Kangaroo grasses are very wide-spread, but are somewhat coarse, and are very common on protected areas, *e.g.*, forest and railway reserves. The Stipas or Spear grasses grow rapidly, and furnish an abundance of sheep feed during the greater part of the year. The seed of several species is very troublesome to sheep, because of its pointed nature and its coarse twisted awn, which has remarkable penetrating power. The POA, AGROSTIS, and ERAGROSTIS species are found in the cooler regions of the State, and provide good feed for stock.

In the drier parts the salt bushes are of considerable importance. They are great drought resisters, and are highly adapted to hot, dry localities and soils with high saline content. Of the various genera, ATRIPLEX, KOCHIA, and RHAGODIA are of greatest economic importance. One of the most important species of ATRIPLEX is A. SEMIBACCATA, a spreading prostrate plant which has been introduced and cultivated in California with considerable success.

There is no doubt that cultivation would greatly improve the native grasses in succulence and bulk. This may be seen from the excellent growth which they make when cultivated in small garden plots. There is little doubt, too, that good seeding habits would follow from systematic cultivation and selection.

(b) INTRODUCED GRASSES.—In the moister regions of Australia—the coastal areas and highlands—the growth of introduced grasses offers a sure means of increasing the stock-carrying capacity.

For the areas dependent on summer rains, the summer growing grasses, *e.g.*, Paspalum, Rhodes grass (CHLORIS), etc., are extensively used. Both these grasses are widely grown in New South Wales.

For areas within the winter rain region, *i.e.*, the coast of the southern half of Australia and the adjacent highlands, Perennial Rye Grass, Cocksfoot, Prairie Grass and Kentucky Blue Grass are the most useful grasses, and White, Perennial Red, and Alsike, the most valuable of the clovers. On rich coastal flats, Strawberry clover (T. FRAGIFERUM) is most valuable, and on relatively poor land and in the drier parts, Subterranean clover (T. SUBTERRANEUM) is being used very extensively.

For the lighter rainfall areas, Wimmera Rye grass (LOLIUM SUBULATUM) is worthy of trial.

HOW AND WHEN TO SOW GRASS SEED.

In the preparation of the soil for a crop that is to occupy the land for many years it is sound practice to do the work thoroughly. The wheat-grower now spends as much as fifteen months' work on the preparation of a fine, firm, well consolidated seed bed for a single crop of wheat. A permanent grass crop which will occupy the land for many years should have a soil preparation at least equal to that of a wheat crop—this is obviously sound practice. The main requirements are a well cleaned, firm, mellow seed-bed, in fine tilth and condition.

Grass seeds may be sown in spring or autumn, but in most districts the spring months and summer are too dry to insure rapid germination and establishment before the summer sets in. Early autumn sowing will usually give best results.

The method of seeding a grass crop is of importance. Whether the seed is sown by broadcasting, by the seed barrow, or by a grass seed attachment to the drill, it is of importance that it be sown very shallow, and, if possible, the seeds should be barely covered. On a fine, well-prepared seed-bed the use of a brush harrow or a very light tined harrow will be sufficient to cover them.

2. Improvement of Pastures by Use of Crops.

For arable areas in fairly good rainfall country, this is undoubtedly the best means of securing an increase in the stock carrying capacity of the land.

It has been proved that when virgin sod has been ploughed up, sown to oats, wheat or other crop, with a liberal dressing of superphosphate, and allowed to revert to pasture, the quantity and quality of the herbage and the stock-carrying capacity has been greatly increased.

3. Top Dressing as a Means of Developing Grass Lands.

In a great number of experiments carried out in the last six years it has been proved beyond doubt that the yield of pastures can be enormously increased by top-dressing with artificial manures.

Phosphates are of special value to grass lands, supplying as they do an essential mineral plant food, which is most likely to be lacking in ordinary Australian soils. A deficiency in phosphates leads to starved grass, and stock grazing on phosphate starved grass cannot long remain profitable to their owners.

Soluble phosphates improve the feeding value of the pastures, and in grazing stock will always show preference for the manured land. Phosphates stimulate the growth of leguminous plants, *i.e.*, clovers and trefoils, and thus enable a store of nitrogenous humus to be added to the soil.

Chemical Composition of Soils in Relation to the Herbage it Grows.

Australian soils as a whole are known to be deficient in available phosphoric acid, and for this reason moisture supply and soluble phosphates may be regarded as the two most important limiting factors in the growth of crops and grass. It has been shown that Australian grasses have a markedly lower phosphoric acid content than those of Europe, and that acclimatized European grasses have a much higher phosphorous content than native Australian grasses, but lower than the same kinds of grasses grown in Europe.

These facts appear to indicate that the low phosphate content of Australian grasses and herbage is a reflex of the environment in which they grow.

It has been proved that soils deficient in phosphates produce grass with a low content of phosphates. Such phosphate starved grass inevitably produces phosphate starved animals, which in turn soon begin to exhibit weakness of limbs and debility. The question now to be answered is—If the deficiency of soluble phosphate is made up by the liberal application of water soluble phosphate. will the grass produced show increased phosphate content? At Rothamsted experimental station, England, some precise experiments have shown that increased phosphoric acid content in the soil, besides materially altering the proportions of different herbage grown, greatly increases the phosphate content in each variety.

Effect of Phosphates on Crop Growth.

1. Promote deep and strong root development.
2. Are particularly important in the early development of the plant because it is essential to the proper functioning of the plant cells in producing growth.
3. Hasten the maturity of the crop.
4. Economise water supply of the soil, because they reduce the transparation ratio, *i.e.*, the amount of water required to feed the crops.

How, When, and at What Rate to Apply Fertilizers.

Fertilizers can be applied either by a seed drill, fertilizer distributor or broadcast. The distributor is the most useful for manuring grass lands, as it will be spread from 1-cwt. to 2 tons per acre in a strip of about 10 ft. wide. Where possible it will prove beneficial if the grass land is harrowed before the application of fertilizers.

As to the time of application, phosphates are best applied when the grass growth is commencing, because they benefit the plant right from the start. A point that should be mentioned here is, that no fears need be entertained about

phosphates being washed out of the soil by heavy rains. Phosphates, and likewise Potash fertilizers are firmly fixed by the soil as soon as rain carries them in from the surface On the other hand, the soil is unable to hold Nitrates, and for this reason such fertilizers are best applied in early spring as a top-dressing. In wet seasons and wet localities, Sulphate of Ammonia is preferable to Nitrates, because it does not leach so easily. Lime and Gypsum are used to ameliorate the textural conditions of the soil particles and should be applied when it will receive the full solvent action of the rainy season.

Much work is necessary to determine the quantity of various fertilizers advisible for grass lands in the different climatic regions of Australia. As a general rule at least 1-cwt. of superphosphate should be applied per acre, and even up to 2-cwt. as an initial application will in many cases be found payable. Nitrates or Sulphate of Ammonia are usually sown at a much lesser rate than phosphates, about 40-lbs. to 60-lbs of these manures per acre being found sufficient.

CONCLUSION.

In conclusion, it must be reiterated that grass is Australia's greatest crop, and too much stress cannot be laid on the necessity for studying the principles underlying its successful production, in fact it is a work of national importance.

It is to be hoped that pastoralists and agriculturists generally will come to realize this, and it is certain that they will find it profitable and in their own interests to devote to the maintenance and development of their pastures the same thought and attention as they now give to their crops

YATES' FARM CALENDAR

Approximate times for Sowing are denoted by—

† for moderately warm climates where Oranges thrive.

* for cool climates, say where English Fruits thrive.

The most suitable times for sowing are very largely influenced by local conditions and seasons, and these and any local experience available should always be taken into consideration.

Farm Seeds	Jan.	Feb.	Mch.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Artichoke, Jerusalem	..	..	..	..	..	†*	†*	†*	..	..	..	..
Barley, Cape, Skinless, Trabut and Pryor	†*	†*	†*	†*	†*	†*	*	..	..	..	..	..
Barley, English	†*	†*	†*	†*	†	..	..	..	..	..	..	..
Beet, Sugar	..	..	..	..	..	..	..	..	†*	†*	†*	..
Beet, Silver (Field)	..	†*	†*	†*	..	..	..	†*	†*	†*	†*	..
Buckwheat	..	..	..	..	..	..	..	..	†	†*	†*	..
Canary	..	*	†*	†*	..	..	..	..	..	..	..	..
Carrot (Field)	..	†	†	..	..	..	..	†*	†*	†*	..	..
Cabbage (Cattle)	*	*	*	..	..	..	..	..	..	..	..	*
Chicory	..	†*	†*	..	..	..	..	..	†*	†*	†*	..
Clover (Sorts)	..	*	†*	†*	†*	..	..	*	*	..	..	..
Couch Grass	..	..	..	..	..	..	..	†	†	†*	†*	†
Cow Pea	..	..	..	..	..	..	..	..	†	†	†	†
Grasses, Pasture	..	†*	†*	†*	†*	..	..	*	*	..	..	..
Kale, Thousand Headed	†*	†*	†*	..	..	..	..	..	..	..	..	*
Kale, Chou Moellier	†*	†*	†*	..	..	..	..	..	..	..	..	*
Linseed (Flax)	..	..	..	..	†*	†*	†	†*	..	..	..	..
Lucerne	..	†*	†*	†*	†*	..	†*	†*	†*	..	..	..
Lupins	..	†*	†*	†*	†	†	†*	†*	†*	*	*	..
Maize, for Grain	..	..	..	..	..	..	..	..	†	†	†	†
Maize, for Fodder	†	†	†	..	..	..	..	..	†	†*	†*	†*
Mangel	..	†	†	..	..	..	..	..	†*	†*	†	..
Mangel, Half Sugar	..	†	†	..	..	..	..	..	†*	†*	†	..
Millet (See Sorghum)	..	..	..	..	..	..	..	..	..	..	..	..
Mustard	..	†*	†*	†*	..	..	†*	†*	†*	..	..	..
Melon, Cattle	..	..	..	..	..	..	..	..	†	†	..	..
Oats, for Fodder	*	†*	†*	†*	†*	*	†*	†*	†	..	..	..
Oats, for Grain & Hay	..	†	†*	†*	†*	†*	†	†	..	..	..	..
Paspalum	†*	†*	†*	..	..	..	..	†	†	†*	†*	†*
Peanuts	..	..	..	..	..	..	..	..	†	†	†	..
Peas, Field, for Fodder	..	†*	†*	†*	†	†	†*	†*	†*	*	*	..
„ „ Soiling	..	†*	†*	†*	†	†	†*	†*	†*	*	*	..

Farm Seeds	Jan.	Feb.	Mch.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Peas, for Garden	†	†	†	†	†	†*	†*	†*	†*	*	*	†
„ „ Market	†	†	†	†	†	†*	†*	†*	†*	*	*	†
Pumpkin	..	..	..	..	..	..	..	..	†	†	†	..
Potatoes	†*	†	†	..	..	..	†	†*	†*	†*	*	*
Rape	..	†*	†*	†*	†*	..	†*	†*	..	..	..	..
Rye Corn	†*	†*	†*	†*	†*	..	..	..	..	..	..	..
Rhodes Grass	†	†	†	..	..	..	..	..	..	†	†	†
Sainfoin	..	..	*	*	*	..	..	..	..	..	..	..
Saltbush	..	..	†	†	†	..	..	†	†	†	..	..
Shallots	..	†	†	†	†	†	..	..	..	..	..	..
Sheeps Burnet	..	..	†*	†*	†*	†*	..	†*	†*	..	..	..
Sorghums & Millets :												
Saccharatum	†*	†	†	..	..	..	..	..	†	†*	†*	†*
Saccaline	†*	†	†	..	..	..	..	..	†	†*	†*	†*
Planters' Friend	†*	†	†	..	..	..	..	..	†	†*	†*	†*
Early Amber Cane	†*	†	†	..	..	..	..	..	†	†*	†*	†*
Millet, Fodder V'ties	†*	†	†	..	..	..	..	..	†	†*	†*	†*
Millet, Broom	..	..	..	..	..	..	..	..	†	†*	†*	..
Grain Sorghums	..	..	..	..	..	..	..	..	†	†	†	..
Soy Beans	†	..	..	..	..	..	..	..	†*	†*	†*	†*
Sudan Grass	..	..	..	..	..	..	..	..	†	†*	†*	†*
Sunflower	..	..	..	..	..	..	..	..	†	†	†	..
Swede	†*	†*	†*	..	..	..	..	..	..	..	..	*
Tagosaste	..	..	†*	†*	†*	..	..	†*	†*	†*	..	..
Tares	..	†*	†*	†*	†*	†	†	†	..	..	..	..
Tobacco	..	..	..	..	..	..	..	†	†	..	..	..
Turnip (Field)	..	†*	†*	†*	†*	..	..	..	..	..	..	..
Velvet Beans	..	..	..	..	..	..	..	..	†	†	†	†
Wallaby Grass (Danthonia)	..	..	†*	†*	†*	..	..	†*	†*	..	..	..
Wheat, for Fodder	..	*	†*	†*	†*	..	..	†*	†*	..	..	..
Wheat, for Grain	..	..	..	†*	†*	†*	†*	..	..	..	..	..

NATIVE GRASSES

AUSTRALIA'S GREAT HERITAGE

OVER the greater part of our continent climatic conditions are too severe for the successful sowing of introduced grasses. Over that vast area called the Inland Plains the Native Grasses reign supreme because of their amazing hardiness and drought resistance. In addition, our indigenous forage plants are famous for their grazing qualities, in as much as they produce the finest and best wool in the world. The main and most important species of Australian grasses are : PANICUM (the Panic Grasses), ASTREBLA (Mitchell Grasses), ANDROPOGON (the Blue Grasses), and various ERIANTHUS species. The former are the dominant species in the summer rainfall region of Northern Australia, while the following predominate in the Southern half, where the main rains fall during the winter :—DANTHONIA (Wallaby Grasses), AGROSTIS (Bent Grasses), ANTHISTIRIA (Kangaroo Grasses), STIPA (the Spear Grasses), ERAGROSTIS and POA.

The purpose of these descriptions is to maintain and if possible increase an interest in native grasses but it must be understood that supplies are exceedingly irregular. We usually have in stock Wallaby Grass and at intervals Mitchell Grass and Australian Blue Grass while of the others mentioned above seed is practically unobtainable. Those interested should write for particulars of varieties available.

WALLABY GRASS.

(*Danthonia*)

One of the hardiest of our native grasses. Grows in a wide variety of soils and climates. Especially adapted to the poorer soils unsuited to other grasses, splendid for sheep.

Mr. F. Turner in his work, " Australian Grasses," says of this variety :—" It grows both in the coastal districts and in the arid interior ; it is one of the most nutritious grasses of Australia, and, unlike most other species of this genus, it will grow more or less all the year round. Stock of all descriptions are remarkably fond of it. The seed germinates readily after showery weather in the autumn and spring months. On good soils the roots of this grass penetrate to a great depth, which enables the plant when growing in the arid interior to withstand long spells of dry weather." The seed is very light, and a small quantity will cover a good breadth of land ; we would strongly recommend that two to three pounds per acre should be added to all mixtures for any soil or climate, or up to fifteen pounds per acre alone.

MITCHELL GRASS.

(*Astrebla*)

This is one of the best native grasses we have, and will yield a large amount of succulent herbage, of which stock are very fond. This grass is very nutritious, a good drought resister, and forms a permanent pasture. Requires well-drained land. Quickly responds to rainfall. If cut when it first shows the flower stem, makes excellent hay. Seed is only saved in favourable seasons, and we usually offer both Astrebla triticoides and Astrebla elymoides. Sow two to three pounds per acre.

AUSTRALIAN BLUE GRASS

(*Andropogon sericeus*)

This perennial grass grows well in the coastal districts and colder portions of New South Wales, Victoria and Queensland, but it is also found in other parts. It is a valuable pasture grass, and, in suitable situations, makes considerable growth in the winter, making it doubly valuable to graziers and farmers. It will also yield an amount of rich, leafy, bottom herbage in the summer months, which cattle and sheep relish and will fatten on. An excellent grass, will stand close feeding well, and will continue growing during long periods of dry weather. Sow two to three pounds per acre. Small supplies only available.

COOLAH GRASS

(*Panicum prolutum*)

An erect perennial species, found more or less in most of the Australian States, generally in good situations. It makes its growth during the summer months, stands considerable hot weather, usually keeping green well into the autumn. It thus forms a valuable pasture for our coastal and inland country, though it is not recommended for the tablelands, owing to the severe frosts.

The department have recently been experimenting with this grass in mixed pastures with considerable success. No supplies at present.

NATIVE MILLET

(*Panicum decompositum*)

Noted for the wonderfully quick growth it makes after rain and the weight of leafage it produces in good seasons. It is considered to be a grass well worth cultivating, and it is adaptable to a wide range of soils and climates. It is very drought-resistant and of perennial character, but makes its growth in the warmer months. Supplies uncertain.

FLINDERS GRASS

(*Anthistiria membranacea*)

Flinders Grass is very nutritious and palatable and under average conditions is easily propagated by seed. It is a great fattening grass ; it is good for temporary pasture and makes excellent hay, and even when the grass is matured and dried up stock like it and do well on it. It is worth trying to establish in our inland districts if not already found in the pastures. It also goes under the name of Barcoo Grass and Landsborough Grass.

ROOT PLANTING

When only limited supplies of seed are available or where it is desired to test the value of grasses, it is worth trying to establish plots for experiment and for propagation by root division (where the nature of the root system permits).

Even if only a small quantity of seed be sown it will, in a rich piece of land, quickly form large clumps and these can be lifted and carefully subdivided and replanted, say six to nine inches apart, and this course can, if desired, be repeated again and again. For full and interesting information on Native Grasses we would refer readers to Mr. E. Breakwell's book, " The Grasses and Fodder Plants of N.S.W.", which we can supply at 6s. (postage, 4d.).

PASTURE GRASSES

THESE four varieties, but especially Paspalum Dilatatum and Rhodes Grass, are very extensively used in our dairying districts, while Rhodes Grass will also succeed well in many parts of our Western Country where the elevation is not great. They should be sown in the late spring, summer or early autumn when the weather and soil conditions are favourable for germination and quick growth.

RHODES GRASS

(*Chloris gayana*)

A very strong growing grass, which, rooting at every joint, soon covers a large area. About the only grass that will hold its own with Paspalum. Excellent for moist situations and hot climates, but succeeds well in a large range of situations and climates, except where heavy frosts are experienced. It is quick germinating after rain and makes growth rapidly and is very palatable to all stock. When well established it is remarkably drought resistant. It is very largely used for surface sowing after clearing and burning off scrub in the coastal areas, and for this purpose there is nothing better. In all the dry inland districts of Queensland Rhodes Grass is proving of the utmost value and has also been of great value in Western N.S.W., not only in mixed pastures but as a special grazing crop when planted with Lucerne, say four pounds of Rhodes and two or three pounds of Lucerne per acre. A customer near Wee Waa writes : —"Please quote Rhodes Grass. Last year's sowing stood up remarkably considering the gruelling it got with stock. I am quite satisfied that it is a beautiful grass." When sown alone six to ten pounds per acre is sufficient if good quality seed is used.

PASPALUM COMPRESSUM

(Also known as Durrington Grass or Carpet Paspalum)

A dwarf compact growing variety of Paspalum, proving of great value for poor sandy stretches of country where Paspalum Dilatatum does not do well ; makes well matted roots, but is most suited for warm climates. Sow five pounds per acre.

PASPALUM DILATATUM

(Yates' Prime " Hand-Shaken ")

Does well planted in conjunction with Rhodes Grass. The seed should be sown during spring, summer, or early autumn, say from August to April. Succeeds best where moist warm conditions prevail, but will prove a very profitable crop even where a moderate rainfall is experienced, and under these latter conditions it is not so likely to become rank and difficult to deal with. Once introduced into swampy land Paspalum soon covers it with a thick mat and gives good grazing where the land would otherwise be useless. It is an excellent practice to sow a few pounds of Perennial Red Clover and White Clover with the Paspalum, as these provide feed when the latter is more or less dormant. Sow ten to twelve pounds of Paspalum per acre. Special quotes for large quantities.

COUCH GRASS

(*Cynodon dactylon*)

Stands heat and drought well and is specially suited for hot, dry districts where other grasses do not succeed. It is also of great value for binding loose soil, sand banks, etc. It should not be planted near cultivation paddocks, as it is difficult to eradicate. Sow in warm weather after good rains. Sow ten pounds per acre.

In warm climates this grass is very largely used for lawns, making a close, fine turf, and with standing considerable heat and drought. For this purpose a pound of seed is sufficient for about ten yards square

---

THE varieties in the following list are introduced grasses which have proved to have a distinct value in the temperate parts of Australia with a good average rainfall. They can be recommended for the New South Wales coast and tablelands and for districts with similar climatic conditions in other States. Autumn is the best time for sowing these varieties, but sowings may also be made in the spring in suitable situations if the weather is favourable.

As regards Kikuyu Grass, Elephant Grass, and Texas Blue Grass, these are distributed by roots or cuttings only, and these can be put out with advantage from early spring onwards.

KIKUYU GRASS

(*Pennisetum clandestinum*)

We undoubtedly have in Kikuyu a grass of which the quality and capabilities are hardly yet realised by farmers and pastoralists. It is a native of British East Africa and is a perennial grass with a strong system of surface and underground runners. On this account it is a very quick spreading variety and also remarkably drought resistant. Mr. Breakwell (late Government Agrostologist) who is very largely responsible for the widespread interest in this grass, states that it should succeed and be profitable to grow in almost any part of N.S.W. where the rainfall is 20 inches or over. It is of particular value for poor clay or sandy soils where it is usually difficult to grow anything but weeds, though naturally the richer soils will give correspondingly better results.

The underground runners quickly root at the joints then send up fresh growth to a height of 1 ft. or 2 ft. or even more in rich localities.

Under coastal conditions it is the quickest growing grass we have, growth taking place continuously, except where frosts are experienced.

On the tableland country and throughout the slopes it will succeed well, and in Queensland also it is creating widespread interest. It will, we think, be found a useful grass in many parts of Victoria, particularly where Paspalum is found.

It does not seed in Australia, therefore it can only be distributed by means of rootlets which we can supply at any time from late winter on. It is recommended to plow the land, opening up furrows six feet apart, and drooping in the rootlets every three feet. At this rate about 2,500 plants will suffice for one acre. We recommend all to try this grass which comes away earlier than Paspalum and gives such heavy yields of very high quality fodder. It adds to the value of the pasturage and gives a more balanced ration if some of the clover family can also be introduced, and we suggest ½ lb. White Clover or Subterranean Clover, and in more favored districts Perennial Red Clover.

For prices, see Current Price List.

Approximate cost of Postage and Packing—Per 100, 1s. ; per 50, 9d.

PASTURE GRASSES—Continued

Prairie Grass (*Bromus unioloides*)

Kentucky Blue Grass (*Poa Pratensis*)

Agrostis vulgaris

TALL OAT GRASS

(*Avena elatior*)

In recent trials in our Northern districts this grass has proved very successful, and it is thought that it will become one of our leading artificial grasses for dry or sandy soils. It has a deep rooting system, which protects it against drought, and it quickly spreads when once established. It is a good winter grass and a quick grower. Stock may at first be averse to it but, when used to it eat it readily, especially if sown in mixture with other grasses. Customers are recommended to try this grass in land which is rather light in character for other artificial grasses, and we would be pleased to have reports after testing.

It withstands heat of summer and the cold of winter, starts very early in spring and continues to give good grazing over a long period. It has been grown successfully in the Department's Trials at Bathurst, Cowra, Wagga and Glen Innes. Sow 20lbs. to 30lbs. per acre if alone, but it is best included in mixture with other grasses.

AWNLESS BROME GRASS

(*Bromus inermis*)

A useful pasture grass which has not been obtainable recently. We have now secured a supply and feel sure there will be many glad of the opportunity of introducing this grass into their holdings. It is a perennial grass, tall growing, with root creeping habit, a native of dry regions in Europe and Asia. In America, and particularly California, it is looked on as one of their hardiest grasses, being most drought resistant.

It is of great palatability and very fattening. Success with this grass has been recorded at Hawkesbury, Bathurst and Glen Innes Experimental Farms, also on the Yanco Irrigation Area.

The early growth is slow and this variety is not at its best until after the first year, but will then stand heavy stocking.

Sow twenty to thirty pounds per acre alone or five pounds in mixture with other grasses. In suitable situations it will make good hay which has a high feeding value.

PRAIRIE GRASS

(*Bromus unioloides*)

This is a most valuable grass, particularly for the dairyman, it gives wonderful yields of fodder in suitable country and cows milk splendidly on it. It is a first-class pasture grass and also makes excellent hay. Owing to its palatability all stock are very fond of it, and as it will not stand continuous heavy grazing it should be spelled regularly, and this is well worth while owing to the extra yields thereby obtained. It grows luxuriantly during the winter providing feed when badly needed. It grows to best advantage in rather loose rich soils. Sow up to two bushels per acre.

YATES' FINEST BRIGHT RE-MACHINED.—A heavy grade plump seed of a very high percentage of germination and purity.

COCKSFOOT

(*Dactylis glomerata*)

This is one of our most useful introduced grasses and, with Perennial Rye Grass, Fescues and one or two others, should form the bulk of all artificial pastures in the more favored coastal and tableland country. It is one of the hardiest of the introduced grasses, withstanding extremes of climate to a wonderful extent. It is inclined to grow tussocky but judicious grazing and occasionally allowing it to seed itself down will counteract this. If sown alone one and a half bushels per acre should be ample.

YATES' EXTRA HEAVY RE-MACHINED.—This is heavy thoroughly machine cleaned seed, which will give a good germination and a quick and even catch.

PHALARIS BULBOSA

For several years the supply of this most valuable grass has been insufficient to meet the demand, but for this season we have made special arrangements and hope to have ample supplies throughout the season.

Each year Phalaris Bulbosa is required in greater quantity as its merits become better known to farmers and graziers. It is considered by many to be a superior grass, for our conditions, to Rye Grass and Cocksfoot. It has a particular value in its ability to withstand hard cold conditions; in fact, it makes wonderful growth in the winter months. It is a grass we particularly recommend for the tableland and coastal country of N.S.W., and for similar conditions in other States. It is succulent, palatable, and a strong grower. It is deep rooting and when once established is drought resistant, and forms a splendid permanent pasture, which stands hard grazing, and is excellent for sheep. When judiciously grazed it forms a close turf.

Perhaps nowhere else in the State has such interest been taken in pasture improvement as on the Northern Tableland north of Armidale, and practically the whole district is unanimous concerning the merits of Phalaris Bulbosa as an all the year round pasture grass for their conditions. In grazing trials over the last four years this wonderful grass has carried two and a quarter sheep per acre continuously and without any spells; and, further, these sheep grew much better and put on more weight than those on the native pasture carrying only one sheep per acre.

This grass also makes good hay if cut as soon as the flower heads are forming. About 10 lbs. per acre is a reasonable sowing, and we suggest that about 2 lbs. per acre of White Clover or ½ lb. to 1 lb. per acre of Subterranean Clover be included either with Phalaris alone or with Phalaris and other grasses in mixture.

A Heavy Growth of Phalaris Bulbosa, at Hawkesbury College.

PERENNIAL RYE GRASS

(*Lolium perenne*)

On those parts of our coastal and tableland country where a high and regular rainfall may be looked for this is one of the very best of the introduced grasses, and is a specially good winter grass for the dairy farmer. In suitable localities it is practically permanent, but best results are obtained with this as with all artificial grasses by re-sowing at intervals of say five to ten years. Sow one and a half to two bushels per acre if used alone.

YATES' EXTRA HEAVY POVERTY BAY.—Is a wonderful perennial variety saved in a dry climate and therefore much more suitable for Australian conditions than the cheaper grades generally sold, which are saved in cool, wet climates.

YATES' SPECIAL OLD PASTURE.—This is the next best long lasting strain and is superior to a great deal of the Rye Grass offered.

ITALIAN RYE GRASS

(*Lolium italicum*)

This grass is only a biennial, but if not grazed too close and is allowed to seed itself (but not until after the first year) it will last for several years. It is of great value as a hay crop sown alone; with clovers or with grain sow up to two bushels per acre.

YATES' EXTRA HEAVY RE-MACHINED ITALIAN.—This is a first-class strain, thoroughly re-cleaned, of the ordinary Italian, and has given excellent results wherever grown.

WESTERWOLDICUM RE-MACHINED.—This is a giant variety of Italian Rye Grass and is earlier and more vigorous. Very hardy.

WIMMERA RYE GRASS

(*Lolium subulatum*)

This is a comparatively new grass and is being used with great success over a large portion of the wheat area of Victoria and Southern and South-western New South Wales. In many ways it is similar to Italian Rye Grass, the main difference being its great drought resistance. It is an annual and will provide green feed for seven to eight months in the colder parts of the year, after which, although it dries off, it is very nutritious as dry hay, the seeds remaining attached to the dry straw for a long period. After the first sowing it will seed itself down every year, even though the land be cultivated for crop, and start away again with the first good autumnal rains.

We do not recommend sowing this on first-class wheat land which is regularly cropped, as it may interfere with the growth and be a little difficult to control. But on land of lighter type which require periodical rests from cropping, or on lands which have been completely exhausted by continuous cropping, we confidently recommend it as a pasture grass of the very highest value. Sowing alone about one bushel (20-lbs.) per acre is sufficient, or if sown with the crop to provide pasturage on land which it is proposed to spell when the crop is off, as low as four pounds will probably be enough. If more is sown it may interfere with the growth of the crop.

This grass is particularly recommended for the Southern and South-western portions of New South Wales and in other parts of the Commonwealth where good winter rains may be expected.

TEXAS BLUE GRASS

(*Poa arachnifera*)

This grass proved itself to be a drought resister of great merit. Best suited to light and sandy soils, roots planted a foot apart will soon cover the whole area. Valuable for cattle, stands heavy stocking. This grass can only be supplied in roots. Root stocks almost unobtainable this year.

PASTURE GRASSES—Continued

POA PRATENSIS

(Kentucky Blue Grass)

One of the best winter grasses for dry soils, yielding a large quantity of herbage in the autumn, winter and early spring. It dies right down in the summer, but soon springs again after rain. It has a creeping habit, resembling Couch, and, if once introduced, will become a permanency. The celebrated Blue Grass regions of America, so noted for their horses, take their name from this grass, which forms the bulk of the pastures there. As this grass is very delicate, and easily burnt up while in its younger stage, we recommend that it be sown in the early autumn only.

CANADIAN BLUE GRASS

(*Poa compressa*)

Unlike Kentucky Blue Grass, this grass does not creep to any extent, is much more leafy, and is a distinct bluish green, while the former is a dark green. Although little known, it has in experiments shown much greater drought resisting properties than Kentucky Blue Grass and will grow on much poorer soils. It germinates very well, will stand a deal of trampling from stock, and would seem to be most valuable for poor situations in the highlands.

Elephant Grass *Agri. Dept. Photo.*

ELEPHANT GRASS

(*Pennisetum purpureum*)

Although not strictly speaking a pasture grass, this recent introduction has proved to be a valuable acquisition and fodder plant of considerable value. It will be noted from the photograph, reproduced herewith, that this is a vigorous growing plant, attaining a height of 12 to 15 feet. It stands cutting well, tests made by the Department of Agriculture showing a return of 50 tons and more of green fodder per acre per year, and also that this grass is of good feeding quality and that stock relish it, especially if not allowed to get too high and coarse. It may be either grazed or cut, and shows a very satisfactory food value by analysis. Milk yield and tests are well maintained. Elephant Grass is adapted to a wide variety of soils and climates and might well be tried out by progressive farmers, even if only on their poorer land. The cuttings should be planted three feet apart in and between the rows.

For prices, see Current Price List. Approximate cost of postage and packing—Per 100, **2/9**; per 50, **1/9**; per 25, **1/3**; per 12, 9d.

TALL FESCUE

(*Festuca elatoir arundinacae*)

This grass has proved to be a distinctly valuable one especially for poor land in our coastal districts. While it has not the feeding quality of, and is not relished by stock like, Rye Grass, Prairie and Cocksfoot (we do not recommend it for land which will grow these grasses), it stands drought and hardship better, keeping green when other grasses are burnt up, and affording excellent grazing when the sweeter grasses either will not succeed or are shrivelled up. We would recommend a proportion of this in all mixtures fo poor, dry, or hilly land.

CHEWING'S FESCUE

A variety of Hard Fescue, which has been grown in New Zealand with success on poor, light, as well as heavier lands; it has formed a good sward where no other grass would succeed. It stands drought well, as its strong roots penetrate deeply into the ground. It is permanent and throws up a large amount of feed in the early spring, particularly good for sheep. We would recommend that a little of this grass be included in all mixtures for permanent pasture, or, if planted alone, allow 15 lbs. per acre.

MEADOW FESCUE

(*Festuca pratensis*)

An excellent grass for elevated districts and in good soils Should be included in all mixtures, except for very dry soils. It is relished by all stock and makes excellent hay It is perennial, early and nutritious.

AGROSTIS

These grasses are used fairly largely for lawns, golf greens etc., and their value for pasturage is low except in cold harsh situations. We stock—A. canina (Brown Top) A. vulgaris (Red Top); and A. stolonifera or alba (Creeping Bent or Fiorin).

TEFF GRASS

(*Eragrostis abyssinica*)

An annual summer growing grass in very great favour in South Africa, especially where summer rains are prevalent. Its rate of growth is astonishing and it may be cut twice or more during the season if sown early. Under good conditions it supplies excellent summer grazing and makes very fine hay. Sow 6 lbs. to 8 lbs. per acre broadcast. For Australian conditions we think Sudan Grass will give better results, and we only recommend trials of Teff Grass where there are ample summer rains. It must be re-sown every year.

POA AQUATICA

(Water Meadow Grass)

This is used rather extensively on marshy land and swamps in Gippsland. The plant is fairly nutritious but rather coarse. We can usually supply root stocks.

OTHER GRASSES

We also stock the following, which, however, are of mino importance except for special situations or purposes **Timothy, Poa Trivialis, Poa Nemoralis, Meadow Fox Tail, Crested Dog's Tail, Yorkshire Fog, Rib Grass or Lamb's Tongue.**

CLOVERS

The Clovers are a wonderful family of plants and supply a great need in Australian pastures, namely—Winter and Early Spring Feed. In addition, their high protein content makes them good flesh builders rather than fatteners, they make excellent hay, and are particularly valuable as soil renovators.

Farmers, especially those in areas where a fair rainfall is experienced, are realizing more and more the great value of the Clovers as **Soil-renovators**, as well as fodder crops of the highest quality, either alone, in pasture, or sown with other green stuff or hay crops.

For renovating worn-out land, and for keeping valuable farming land in proper condition, nothing will do more good than the Clover family (or, if prepared, other legumes, such as Field Peas, Field Lupins and Soy Beans, and in warm climates Cow Peas). Like all other legumes they have the power of gathering large quantities of nitrogen from the air and a proportion of this is left in the soil. When the crop is ploughed in the nitrogen is made available, while the foliage, stems and roots form necessary " humus," which gives " life " to the land.

The addition of one or other of the Clovers, when laying down pastures or sowing greenstuff or hay crops, will provide a much **better balanced ration** to the great benefit of the stock grazing it, and when the crop is done the Clover will often give a good picking for a considerable period, afterwards being ploughed in for **green manure.** With this latter method it must be understood that the amount of nitrogen in the soil is little more than maintained as it takes this much of the plant to return the small amount of nitrogen derived from the soil and not from the air.

Clovers succeed best in good " sweet " land and usually respond well to superphosphate. Sow 12lbs. to 15lbs. per acre alone, of if with pasture grasses 2lbs. to 3lbs. per acre.

Generally speaking, Clovers should be sown in the autumn, but in good seasons successful results can be obtained from spring sowing.

YATES' A.Y. SUPERFINE WHITE CLOVER

(*Trifolium repens*)

This is used perhaps more than any other for sowing down with Pasture Grasses. It spreads quickly, especially in moist situations. Widely used on the North Coast of N.S.W. in Paspalum and Rhodes Grass Pastures, giving a splendid pick during the winter, when these two grasses are more or less dormant. Succeeds in a wide variety of soils and climates.

YATES' ENGLISH WILD WHITE CLOVER

A hardier and more lasting strain than the ordinary White Clover ; its root action is stronger, and it is of dwarfer and denser growth, and of more rapid creeping habit. Our seed is saved from long-established English pastures, and we recommend a little with all grass seed mixtures.

YATES' SUPERFINE N.Z. PERENNIAL RED CLOVER (or Cow Grass)

(*Trifolium pratense perenne*)

Succeeds best in the cooler tableland country, as it requires a fairly consistent rainfall. It is a vigorous grower, and splendid for milk production ; under suitable conditions it will last several years. Recommended for sowing with Oats or in pasture with Paspalum or other grasses. This is probably the heaviest yielder of all the clovers.

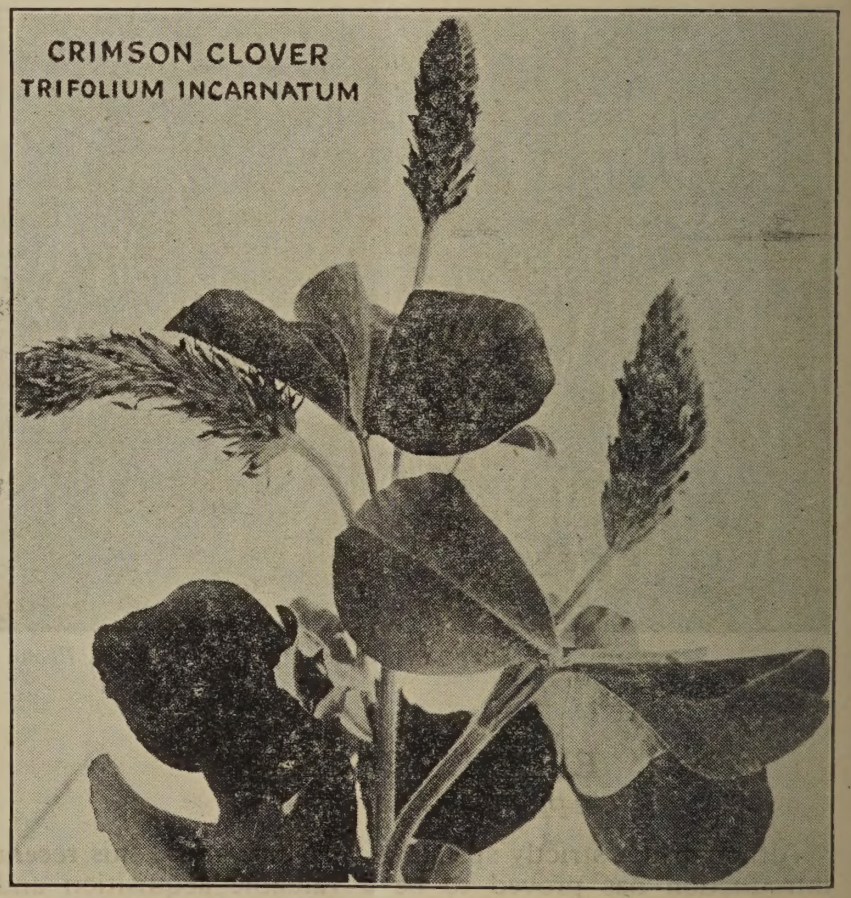
TRIFOLIUM INCARNATUM (or Crimson Clover)

This is an annual, a quick grower, and will stand a great deal of hard grazing. It is useful as a stubble plant sown alone or with Rye Grass after the grain crop, when it will produce a heavy crop very early in the following spring.

ALSYKE

(*Trifolium hybridum*)

Combines to some extent the qualities of Red Clover and White Clover. It will sometimes succeed where Red Clover does no good, and can be classed as permanent in suitable locations, one of the heavier yielding Clovers.



BERSEEM (or Egyptian Clover)

(*Trifolium Alexandrinum*)

An annual Clover which **must be sown in early autumn,** as it makes its growth during the autumn, winter and early spring months. Sown in early autumn in a favourable locality, it will give two and even three cuttings of valuable Lucerne-like greenstuff during the winter and early spring. It can also be sown in the autumn with Oats, and after being grazed for a time it can be cut in the spring with the Oats for hay. Clay soils seem to suit it. Sow eight to fifteen pounds per acre on well rolled land.

ABOUT BERSEEM.

Miss B. D———, Fairfield :—We find the Berseem the best possible green manure, being very quick in growth, and we are using it extensively to restore humus to the soil between the crops of Gladioli.

YATES' A.Y. SUBTERRANEAN CLOVER

(*Trifolium subterraneum*)

We are convinced that Subterranean Clover will play a most important part in farming practice in a great many parts of this State. Where soil and seasonal conditions are favourable this Clover will produce more high-class fodder than almost any other plant.

As to soil requirements, this plant accommodates itself to a very wide range, and, indeed, we think that its great value as a "soil improver" will cause it to be sown on a great deal of second-class land to the great benefit of the soil, and resulting in bigger returns to the land-holder. Subterranean Clover responds readily to phosphatic manures, so that Super. can be used with advantage.

Climatic conditions required are a fairly regular Autumn to Spring rainfall. It should do well in this State on all parts of our coast and tablelands, and parts of the western slopes where the rainfall exceeds twenty inches.

Its main use is for grazing green, or when matured as a dry feed. In addition, it is a great soil improver, and of great value in choking out undesirable weed growth.

It is only an annual, but as it produces most of its seed just below the surface of the soil (hence its name), it is in practice perennial, and once introduced and properly established, it is permanant.

We recommend sowing in all mixtures of grasses at the rate of ½ to 1 lb. per acre. Sown with cereal crops 2 lbs. per acre should be sufficient, while if sown alone on properly prepared land, from 4 lbs. to 6 lbs., and even up to 10 lbs. per acre may be planted, according to the quality of the land. Smaller sowings may be made if time is allowed for the clover to spread, which it does very rapidly. In our Paspalum country it should be specially welcome, as it has proved in similar country in north New Zealand to be of great advantage in preventing the formation of close "mats" and in providing a better balanced ration.

BOKHARA CLOVER (or White Sweet Clover)

(*Melilotus alba*)

This is a Clover with a big reputation for renovating land for green manuring and for preparing land for the introduction of lucerne. The plant makes very big root growth and, being a biennial, dies out after the second year when the roots rot down very quickly.

Bokhara can be grazed profitably by all classes of stock, the fodder value, by analysis, being extremely high. There is practically no danger of bloat with this Clover and it is a great milk producer. It is also an excellent honey plant.

If used as a rotation crop it can be ploughed in either the first or second year according to circumstances. Seeding does not take place until the second year, and so long as this is prevented there is no danger of the plant getting out of control.

This plant should not be grown in wheat paddocks. Sow 8lbs. to 10lbs. per acre broadcast, or 5lbs. in drills.

MEDICAGO DENTICULATA

(Burr or "Native" Trefoil)

This is an introduced member of the clover family, but has become so widespread that it has earned the title of "Native." It is now one of the commonest plants in N.S.W. and furnishes a tremendous amount of feed. It grows with the first good autumn rains, giving a heavy yield of lush green fodder throughout the winter and spring. With the approach of summer the plant ripens off and the seed, falling on the ground, then forms a most valuable and highly concentrated food. This the sheep will lick up from the ground and do well on it. Country that grows this Trefoil is essentially fattening country. The burrs are a great disadvantage in purely wool growing country.

A Dried Plant of Subterranean Clover showing the crown-forming habit and the sturdy root system.

STRAWBERRY CLOVER

(*Trifolium fragiferum*)

An excellent variety for low, wet, swampy land subject to floods or inundations through the backing up of tide water. This plant has a trailing habit, and thrives where no other Clovers and very few Grasses will grow; in our opinion, it should be associated with Water Couch. If one pound or so per acre is sown in suitable situations it will very soon spread. It is very largely grown in portions of Gippsland, where the land is swampy, and is found to be very fattening. Cattle do particularly well on it. Two pounds of shelled seed per acre is a good sowing.

SHEARMAN'S CLOVER.—Similar to the above and probably a variation; root only of this variety; supplies very doubtful.

ENGLISH TREFOIL

(*Medicago lupulina*)

An annual Clover succeeding in light dry soils, greedily eaten by sheep. It has good bold seed.

LOTUS (Varieties)

LOTUS CORNICULATUS (Birdsfoot Trefoil).—A deep rooting perennial Clover maturing the second year, and producing a large quantity of leafage.

LOTUS MAJOR.—Land that requires draining can often be improved with this Clover.

LOTUS ANGUSTISSIMUS.—A hardy Clover which does well in rough country and should be very suitable for sowing on burns.

MEDICAGO ORBICULARIS

(Burrless or Button Trefoil)

This is a variety of Trefoil Clover which has attracted attention in Tamworth and other Northern Districts. It is very similar in its growth and appearance to our Native Trefoil or Burr Clover, but the seed is not enclosed in a burr; this is manifestly a great advantage to wool growers. It is an annual, but seeds itself so profusely that it comes up every spring, and is permanent when once introduced.

LUCERNE THE KING OF FODDER CROPS

" The crop that gives a continual harvest without an annual ploughing or seeding."

IT IS A FACT worthy of note that Lucerne has been cultivated by man for over 2000 years.

This in itself shows the great value and usefulness of this hardy, long-lived perennial forage plant. As evidence of its adaptability it is now grown more or less extensively in every continent of the globe.

In our own country Lucerne has already become one of the foremost of our fodder and grazing crops. Each year the area under Lucerne is increased by tens of thousands of acres, and this increase is undoubtedly due to a now wider spread knowledge of its adaptability to varying situations, soils and climates.

For many years it was considered that Lucerne would not succeed unless sown on choice alluvial flats, but recent experience has shown this to be a fallacy, and that its restricted use in many districts was due to incomplete knowledge.

The point we would emphasise here is that the " range of adaptability " of Lucerne, once considered limited to rich alluvial flats, has now been proved to include any deep reasonably good agricultural land with a rainfall of at east twenty inches. On such areas good " grazing " Lucerne can be successfully grown, making the land capable of carrying a much heavier stocking, and affording a wonderfully quick " shoot " after rain. Under suitable conditions in clean land, and where our best Re-cleaned YATES' BROADLEAF AY GIANT-UPRIGHT LUCERNE has been planted, it will yield continuously, for an indefinite number of years. It is one continual harvest without an annual ploughing or seeding.

For many years we have made a great speciality of our Lucerne seed, and amongst keen, discriminating farmers our standard of quality, signified by the name, YATES' BROADLEAF AY GIANT-UPRIGHT LUCERNE has become a tradition. Do not forget that when you sow Lucerne seed you are putting down a crop which you hope will yield you returns for several years. Is it not then good policy to do everything in your power to make it a success? With this ideal in mind, work your land well to obtain a fine, firm, clean seed-bed, and—this is just as important—use the BEST SEED OBTAINABLE.

Land that you intend putting under Lucerne should be fallowed long before sowing time, and kept well worked in order to eradicate weeds and to obtain a fine tilth. Lucerne seed, on account of its small size, requires a fine compacted seed-bed in order that the roots may get a grip of the soil particles. In addition, the seed should be very shallow in the ground, the lightest possible covering being all that is necessary.

YATES' BROADLEAF AY GIANT-UPRIGHT LUCERNE

YATES' BROADLEAF AY GIANT-UPRIGHT LUCERNE in sealed bags is re-machined and tested seed of extra prime quality of a superior type of N.S.W. grown Lucerne, which is saved on selected farms in those districts in which, owing to special natural conditions, there has been evolved a long standing drought resisting strain, which has proved tself for Australian conditions.

Most of these farms have supplied the seed crop to us for many years past, and we know that it is of the true Broadleaf Giant Upright pedigree.

YATES' BROADLEAF AY GIANT-UPRIGHT LUCERNE is supplied through our country agents in 25 lbs. and 50 lbs. net sealed bags, printed with our own brand, or will be supplied direct to farmers in whatever quantities required. Growers should exercise caution, and accept only packages closed with our metal seal, and branded as above.

WRITE FOR PRICES, STATING QUANTITY REQUIRED.

Sixteen to twenty pounds per acre is a fair sowing for good situations with a moist subsoil if sown broadcast; or ten to twelve pounds if drilled. In dry areas as low as six pounds is found sufficient.

LEGUMINOUS CROPS

While all these crops are of very great value as feedstuffs in some form or other, they have the additional advantage of being the best of "Soil Renovators" and increasing the fertility of the soil. Their value for rotation, also for green manure, can hardly be overestimated.

SOY BEANS

Whereas the value of Cow Peas are well known and appreciated by most mixed farmers, owing to climatic conditions their general use is confined to the coastal parts of Northern New South Wales and Queensland. Soy Beans, while giving much the same sort of crop, do well under a much wider range of climatic conditions, and will thus, when better known and understood, be used to a very large extent.

The wider use of Soy Beans will enable the farmer to have a summer growing legume crop which will give a hay of the feeding value of lucerne and clover if grown alone, or they can be used to bring up the feeding value of the more generally used summer crops by planting a small proportion with the other seed; the farmer will thus get the wonderful feed value of the legume in summer as well as winter. When trying Soy Beans for the first time, too much reliance should not be placed on the results of the first crop, as owing to the special soil bacteria necessary for their best growth, the following crops are nearly always very much more vigorous than the first. Sow the seed about three to the foot in shallow drills two and a half feet apart after danger of frost is over.

We can supply the following varieties :—

MAMMOTH YELLOW.—An old standard variety. One of the best for hay or seed, Very vigorous, growing over 3 ft., and thus gives a very large bulk of feed. It is medium late maturing.

LAREDO.—A medium late maturing variety giving exceptionally heavy bulk of feed. Laredo has slender branches and thus gives very good quality hay. In America this variety is largely replacing the Cow Pea, and we would strongly recommend it for trial on the coast of Northern New South Wales and Queensland.

BILOXI.—An upright variety, growing 4 to 5 feet high. covered with dense foliage, which does not shed easily, Gives a very heavy yield of beans and is therefore an excellent variety for growing for pigs. It is a very late maturing variety and needs a long season to grow to maturity.

WILSON'S EARLY BLACK.—A prolific early combination hay and seed variety. It has fine stems, which enable it to cure quickly for hay.

TARHEEL BLACK.—A little earlier than Mammoth Yellow. This variety is tall growing and of upright growth. Branches well close to the ground.

TO SAN.—A new variety which promises well. Habit is bushy, erect and vigorous.

KUDZU VINE

(PUERARIA THUNBERGIANA).

We have had several enquiries or this. It is a perennial egume best adapted for poor soils near the coast. We can only supply in packets, and recommend that the seeds be sown in a good patch. The plants will quickly grow and send out long runners which root at every joint. These can then be severed and transplanted, and the required area thus quickly covered. Packets, 1s.

Showing the dense growth made by a crop of Soy Beans.

COW PEAS

Cow Peas form perhaps the most valuable crop for green soiling that we have for the coastal and warm parts of this country. They are extensively used for this purpose in the sugar fields of Queensland, and will doubtless form the main legume for the crop rotation now being found so necessary in connection with maize growing, especially on our North Coast. Cow Peas make excellent pasture, fine hay and splendid ensilage (especially in conjunction with other green crops), and as well as all this do more than almost any other crop to improve the soil. The Cow Pea is an annual, making its whole growth during the summer months. In general appearance, habit of growth and character, and composition of seeds, it resembles fairly closely the ordinary Kidney Bean. We urge farmers to consider the advantages of sowing Cow Peas with Maize, Sorghums and Millets, either for green fodder or ensilage. Not only will the combined crop make a better balanced ration, but the total yield will be increased and also the condition of the land improved. Sow in spring after frost is over in drills 3 ft. apart and drop peas at intervals of 9 to 12 inches in the drills. Sown in this manner, 10 lbs. of seed should well cover an acre, broadcast ½ to 1 bus. of seed is required. Supplies of Cow Peas, owing to difficulty of harvesting, are always uncertain, and prices vary considerably. We expect to have Black Seeded, but supplies of Clay Coloured are very doubtful.

Mr. A. H. M., Farm 1312, Griffith, 29-3-26 :—"I have fifty acres of two years old Lucerne planted with your A.Y. Broadleaf. This stand is considered to be the best on the irrigation areas for quantity and quality and I have been able to obtain a ready market for all I have forwarded to Sydney."

LEGUMINOUS CROPS—Continued

TARES OR VETCHES

Grey, Black, and Golden.

These are impo-tant members of the legume family, and are l rgely grown both for fodder and as a winter green manure. In both cases it is preferable to sow in conjunction with a cereal crop, though they may be used alone as green manure. When used for feed the combination of legume and cereal gives a well balanced ration, and the upright growth of the cereal supports the Tare, which is a climbing or trailing plant. Cows milk well on Tares, and it is an excellent fattening crop for pigs.

In some of the North Coast districts this crop, either alone or in combination with Rye, Oats, or Barley, is sown on the Maize flats, fed off during the winter, and in the spring the residue ploughed in for green manure.

Not only does this provide excellent winter fodder, but it also maintains the fertility of the flats, thus giving better yields in the succeeding crop.

In order to encourage a quick and heavy growth, we advise the application of Superphosphate with this crop

Tares succeed in a wide variety of soil and districts, so long as there is a good winter rainfall. Seed should be sown in early autumn from February onwards.

We would suggest a sowing of from ½ bushel to 1 bushel Tares with a bushel or ½ bushel of Oats, Rye, or Barley (or a mixture of the three).

The ratio will vary according as the main crop is intended to be the cereal or the legume. The Department of Agriculture recommend 30 lbs. Tares with a bushel of grain. The seed can be mixed and broadcasted, or it can be drilled in.

If sown alone, up to 2 bushels per acre is ample.

PEANUTS

As well as being in great demand for human consumption, the Peanut is being increasingly used as a stock fodder, especially for pigs. This crop may be successfully grown in any except the coldest parts of the State. The plant grows usually from 12 to 18 inches high, and has the peculiar habit of maturing its seed in the ground. They require a rich sweet soil, which should be well worked to a depth of four to six inches, but kept firm and solid under that depth ; this keeps the nuts near the top and so facilitates harvesting. Sow 30 to 40 lbs. of nuts, or say 10 lbs. shelled seed per acre. When ripe, lift the plants and harvest the nuts, which are produced below the ground. The Peanut plant may be grazed, the top made into hay, or used as a soil renovator ; and is valuable as a dry farming crop. We usually have in stock supplies of tested growth of the small podded local grown variety and the large podded North China nut. Customers are asked to state their preference when ordering. The small podded variety is the more useful for forage purposes on account of its upright growth, which, however, makes it necessary to throw a little earth on the centre of each plant to induce the vines to penetrate the soil. This greatly increases the yield.

HORSE OR TICK BEANS

Somewhat similar in appearance of plant and habit of growth to the garden Broad Bean. They are grown in cool climates for the seeds, which form excellent foodstuff. When well harvested the haulm also makes useful fodder. Sow about two bushels per acre in the autumn and early winter.

VELVET BEANS

A valuable plant for moist warm climates, such as the North Coast of New South Wales and the Coastal districts of Queensland.

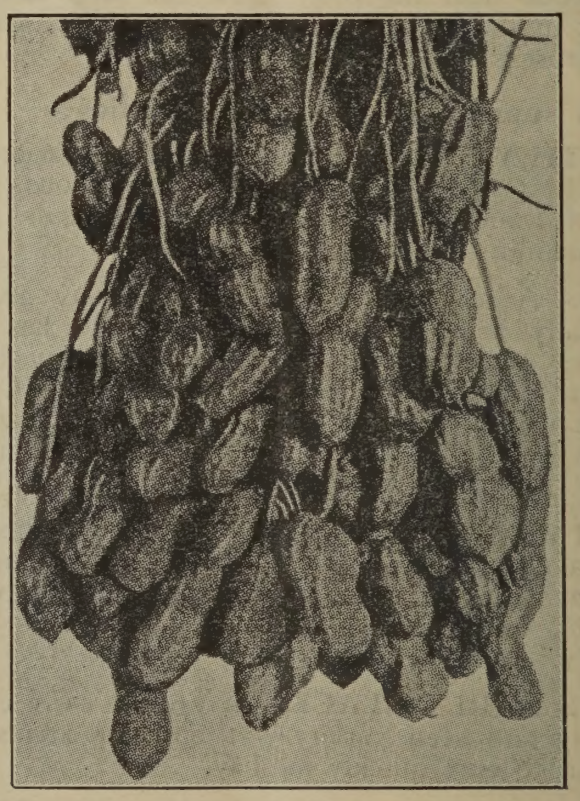
When conditions are suitable, it is the rankest grower and heaviest yielder of any of the legumes. As a soil renovator it is excellent, but it will be valued even more for the magnificent grazing it affords and for the high feed value of the Beans. It is also recommended as a very suitable crop to sow with maize, either for grazing or for ensilage, in this case the Beans should be sown about a month later than the maize. With this method the vines are supported by the maize stalks, and an enormous amount of fodder is obtained. If sown alone, plant in rows four feet apart and about 18 inches between the seeds, or two or three seeds in hills four feet apart in rows five feet apart.

We have supplies of the following :—

SPECKLED VELVET BEANS.—One of the earliest sorts and therefore suitable for the lower coastal districts, especially for forage and soil improvement.

OSCEOLA VELVET BEANS.—Another early sort with large pods and very vigorous. Comparatively free of furze on the pods.

BUNCH VELVET BEANS.—Of less vining habit than the other varieties and rather later. A good sort for growing with maize.



Peanuts are heavy yielders.

ANNUAL BLUE LUPINS

For green manuring these provide one of the best crops for ploughing in, especially in our cooler districts. When practicable we recommend autumn sowing, but they will succeed if sown in early spring. Lupins grow very rapidly and produce an immense amount of top. Sow at the rate of 2 bushels per acre. For small trials 3 lbs. will sow an area of 100 square yards (10 yds. x 10 yds.)

Mr. P. G., Mallanganee, 29-6-26 :—" It may interest you to know that I pulled off the first prize for twelve stalks of Saccaline grown from the seed I purchased from you in January."

LEGUMINOUS CROPS—Continued

FIELD PEAS

This is a crop which we consider does not receive the attention it deserves. It is an excellent fodder for sheep, pigs and other stock, but we think its main value is when grown as a combined "legume-cereal crop." For this purpose Field Peas are excellent sown with oats or wheat. If sown early with oats they can be grazed off once or twice during the winter and then let go dry for hay. The addition of the pea straw to the oaten hay makes a much more balanced ration and is very palatable to stock.

If sown alone they may be grown for topping off to maturity and when cut fed to pigs, or they may be cut green, just after flowering, for cattle or pig feed.

This crop is classed among the best of the soil improving crops. Even if only the roots are ploughed in the soil is greatly enriched.

Field Peas, though not so hardy as Tares or Vetches, are earlier maturing, usually cheaper in price, and one grower reports that when grown with a cereal it will stand the trampling of grazing cattle better than will tares under similar conditions. Field Peas can be sown in the autumn or spring, but in mild districts we prefer autumn sowing.

Sown alone 1½ to 2 bushels per acre broadcast, or say 30 lbs. in drills 2 feet apart.

Sown with cereal crop try ¾ bushel Field Peas with 1½ bushel oats or wheat per acre.

We usually stock the Grey, Blue, and Dun varieties of Field Pea, the Grey and the Dun being perhaps the most popular.

Grey Field Peas.

Four Great Benefits of Crop Rotation

ROTATION OF CROPS is a principle often lightly advocated by the theorist, and for that very reason it is spurned by a lot of farmers who have a decided contempt, which is to some extent justified, for the opinions of those without any practical experience. Nevertheless, the principal of the "Rotation of Crops" is absolutely sound in practice and has many very real benefits. These we are attempting to explain and describe in as lucid a manner as possible, and trust that it will be of interest to those who are not well versed in the modern theories of Agriculture.

1.—THE FEEDING OF PLANTS.

Although, generally speaking, all plants feed on the same elements the proportion in which they absorb them varies very greatly with different classes of plants.

For instance, crops which produce a large amount of foliage and greenstuff draw heavily on the supply of nitrogen, grain crops on the phosphate contents in the soil, and root crops on the potash supply.

Obviously then, if one class of crop is continually grown on the same piece of land and no fertilisers applied, it will seriously deplete that particular plant food on which it draws most.

This is probably the explanation of that oft used term "wheat-sick," applied to certain areas of land. Then there is the question of shallow feeders and deep feeders. A wheat plant, for instance, has a very shallow rooting system, the fibres not generally penetrating more than three inches into the soil, and consequently it draws all its food from the top layer or surface soil. This, combined with the very shallow cultivation now so widely practised by wheat growers, seriously weakens the fertility of the surface soil when the land is continually growing wheat on similar shallow rooting crops.

Of course it is well known that shallow cultivation has been proved in many wheat areas to give the best results, but it is as well to remember that there are some disadvantages and they should be borne in mind by farmers when they are planning out their general scheme of cultivation.

If crop rotation is practised and deep and shallow rooting crops grown alternately, the food supply is drawn more evenly from all parts of the soil and gives the depleted parts an opportunity of becoming replenished.

2.—PREVENTION OF THE SPREAD OF DISEASE.

The innumnerable diseases to which crops of all kinds are subject are in the main brought on by the growing of crops in large areas.

In natural forests and vegetation areas plants suffer from many of the same diseases as they do when cultivated by man, but in nature a certain balance is preserved by the fact that one disease perhaps preys on another, and plants of the same kind are scattered far and wide and infection is not easily carried from one to the other.

But under civilised farming, when man plants a certain kind of crop, he placed millions of plants of the same variety in close proximity to one another, perhaps only a few inches apart, and obviously offers a great opportunity of multiplying and spreading to any disease which attacks that particular crop.

It is found that most plant diseases have an annual life cycle, and so must find each year a host plant of their particular species on which to complete their life cycle and become regenerated. Again, the principle of crop rotation offers a very obvious solution. If a crop of an entirely different nature is grown on alternate years, the disease is deprived of any host plant on which to live, and so dies out.

3.—KEEPING LAND CLEAN.

When practising a crop rotation the land has to be cultivated at different times of the year according to the particular crop which is to be sown. Because of this, many weeds are killed which would not be caught were the land always under the same crop and always cultivated at the same time of year. Also for the same reasons as mentioned above, there is a more even demand on the supply of farm labour at all times of the year.

4.—LEGUMES IN CROP ROTATION.

Where possible, the use of legumes in a crop rotation is very strongly advocated. This family of plants is one of the most useful known to man, and includes Lucerne, Clovers, Trefoils, Peas, Beans, Peanuts, etc., etc. Legume plants have two or three very outstanding advantages:—

(1) They draw the majority of their nitrogen from the air which filters through the top layers of soil. This is done by the aid of bacteria which cohabitate with legumes and live in little sacs or nodules on their roots. Thus when a leguminous crop is over it leaves in the remnant roots, butts, stalks, etc., or, better still, the whole plant if it is ploughed in, a very considerable quantity of nitrogen which was gathered from the air, and is now being placed in the soil. This extra supply of nitrogen will be stored and be available to the succeeding crop to its very great benefit.

(2) Legumes as a rule have a very high feeding value for stock, being particularly good flesh builders and fatteners. This is accounted for by the fact that they usually have a very high protein content.

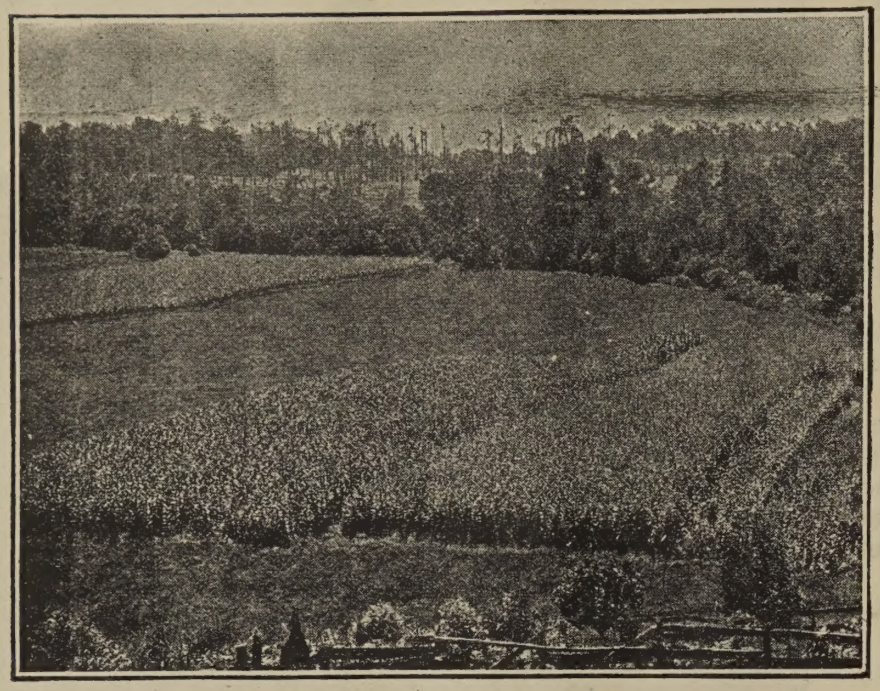
(3) The legumes are a very large family of plants, and contain many useful species, which grow under an exceedingly wide and varying range of soil and climatic conditions. The legumes are perhaps to man the second most important family of plants, first place being given to the grasses.

CONCLUSION.

Crop rotation is a comparatively old practise in many countries where the land is worked very intensively; in fact, in such countries it has become an absolute necessity, and although its application will be somewhat different in a country such as this, where climatic and soil conditions are also so entirely different, it undoubtedly must come in the near future just as surely as it has come in older and more closely settled countries.

It behoves every landowner, if only for his own sake, to take an intelligent interest in all new theories and developments in Agriculture, and it is essential for the welfare of Australia that progress in the agricultural thought of the community should be ever maintained.

SEED MAIZE



A Seed Crop of Maize grown for us on the Bellingen River.

SELECTED AND SPECIALLY RE-GRADED SAMPLES

MAIZE is the second most important grain crop in New South Wales, the average annual yield being in the region of 10,000,000 bushels. The average yield per acre is 30 to 40 bushels, and it is estimated that with improved varieties and methods of cultivation it should be raised to 60 to 70 bushels.

MAIZE is a summer crop of the utmost importance in all districts where a reasonable fall of summer rains can be counted on. Even where the summers are usually on the dry side, Maize can be successfully grown if sown in drills and carefully and regularly cultivated.

In cool districts where maize will not ripen, it is still a most valuable green fodder for early autumn use. We strongly recommend sowing in drills, even when only needed for green fodder or ensilage.

The extra weight of crop from a paddock of green Maize sown in drills and cultivated will more than repay the extra cost of labour. Should the season turn dry a fair yield would result from cultivated Maize, whereas the broadcasted crop might be a failure.

By sowing the early maturing varieties it is possible to harvest a crop of grain in districts where the later maturing sort will not ripen. The best time for sowing Maizes varies somewhat in the different districts. For green crop or ensilage, Maize can usually be sown a month or so later than would be necessary for a grain crop.

As the majority of our customers will require Seed Maize for green crop, we would advise them not to overlook the White Grained varieties, as, generally, besides yielding a heavier grain crop than the yellow sorts of the same class, they are all exceptionally good green crop Maizes, producing a heavy leafy succulent growth.

Sow 8 to 12 lbs. per acre in drills for grain, and one bushel to one-and-a-half bushels broadcast for green feed. The Maize crop generally is very short this year and prices are consequently high and good samples scarce, but in view of the really small quantity of seed required per acre this should not be considered, and farmers in their own interests should not begrudge the small extra cost of graded samples.

VARIETIES

EARLY MORN.—An exceptionally early yellow variety with a good but small grain. It is specially recommended for very cold districts and for very hot, dry districts where early maturity is essential. It is also very useful in the Maize growing districts for land which is wanted for autumn use, as owing to its exceptional earliness it can be harvested in plenty of time to work the land for autumn crops. In practise it is found that owing to its small growth it can be planted much closer than usual. A very good yield per acre is obtained by spacing the rows 30 inches apart and planting the seed every 18 inches in the row.

NINETY DAY.—An early flint. A good early green crop variety. Supplies will be late this year.

SMALL EARLY LEAMING.—A very popular variety on the North Coast, gives a fine early green crop. We usually have the red grained sort and may have the yellow.

SILVERMINE.—The earliest white grain, deep and solid, excellent for early green fodder. Very hardy and drought-resistant, also gives good yield of grain.

At time of going to press supplies of some varieties are not yet assured owing to lateness of season and weather conditions. See current Price List before ordering.

SEED MAIZE—Continued

SMALL EARLY RED HOGAN.—A fine early green crop variety.

FUNKS EARLY YELLOW DENT.—One of the earliest of the Dent varieties, especially recommended for the Tablelands and slopes. Very hardy and drought-resistant. A very good variety for a grain crop, has a fine hard grain.

WELLINGROVE (or Early Yellow Dent).—Medium season, heavy cropping Dent variety, giving medium size crop of fairly thick moderately broad grain. Is used to a fair extent on the tablelands and is also suitable for the Western slopes.

FITZROY. (or Improved Yellow Dent)—A variety which is becoming extremely popular both as a good yielder of grain and for green fodder and silage. Grain is moderately thick, broad and deep and of a bright colour, which makes it very attractive.

HICKORY KING.—A very popular main crop white variety. Very broad grain, is exceedingly good for green fodder, specially for the highlands, as the variety suckers freely.

GIANT WHITE.—Excellent main crop. Grain large deep and solid. Splendid green fodder.

MANNING WHITE.—Very similar to Giant White, and has gained great popularity in certain parts of the North Coast of New South Wales.

ULMARRA WHITE CAP.—This is a very late tall-growing maize with large cobs. The grain is deep and generally pale yellow in colour with a white cap. A very good yielder.

GOLDMINE.—Favoured as an early main crop on the South Coast. Deep yellow grain.

LARGE RED HOGAN.—Late maturing variety, very popular in districts with long season. In favourable seasons it gives a very tall growth, but as the stalk is stout it resists wind well. Grain is fairly thick, broad and deep.

YELLOW HOGAN.—A late variety which has been very successful on the Macleay River, N.S.W. The grain of this variety is exceedingly heavy.

YELLOW HAWKESBURY. — Deep broad grain splendid in warm districts ; heavy cropper.

MILLETS

Quick, Cheaply-Grown Summer Fodder Crops

As a catch crop to augment the natural grazing many farmers require a quick-growing fodder to give a " green pick " when the pastures are ripened and dry. The need is for something that will require little labour in cultivation or harvesting Some of the MILLETS are eminently suited for this purpose. They will grow well on even mediocre land, and several of the varieties stand grazing very satisfactorily, and shoot again and again.

As a " follow on " for milking cows and growing lambs after the spring grass has commenced to dry the severa varieties of MILLETS specially indicated are excellent. Sow broadcast or through an ordinary grain drill set for suitable depth as mentioned below.

VARIETIES AND THEIR USES

PEARL MILLET

This is a very tall growing variety suitable for hay making. If sown in rows and intercultivated it will attain a height of 8 to 10 feet. It has slender stalks and slender long bladed leaves making it very suitable for hay, and should be cut while young and tender. Sow 8 to 10 lbs. per acre n drills, or up to 20 lbs. broadcast.

WHITE FRENCH

Is smoother and of slightly more succulent foliage, and grows up a little higher, but does not stool quite so well. This millet also recovers very quickly after feeding off or cutting.

BROOM MILLET

The grain is an excellent fowl feed, but the great value of this variety is for broom making. We stock the best Hunter River Grown Long Hurl variety. To those interested, we can supply detailed instructions about growing this crop.

JAPANESE MILLET

For grazing purposes or green fodder, gives the earliest growth. This variety is of upright growth, and stools out fairly well. It grows up to 3 feet 6 inches or more high and " comes again " very quickly after being fed off or cut ; also makes excellent hay.

HUNGARIAN MILLET

Another very valuable Summer green crop. Sown in the spring or early summer it will give a wonderfully heavy crop of hay or ensilage. For hay purposes the Hungarian Millet is much superior to other varieties. It is a quick grower in fact, in suitable situations, if the seed is sown in September, it will mature early enough to obtain a second crop of hay off the same land. Twelve pounds of seed per acre in drills, or 20 pounds broadcast is a fair sowing. When in bloom it should be cut and treated as other hay.

ABOUT JAPANESE MILLET.

Mr. F. W., C—— R—— Yass, writes on 4-3-26 :—" Iwould lik to mention that I had excellent results with the Japanese Millet I bough from you last November. Just after it was sown two inches of rain came and since then till now (three months) half an inch, during which time I have grazed up to ten sheep to the acre on it and turned them off prime fat. In my opinion for a summer feed it is out on its own."

SORGHUMS

IN districts where rainfall is a little too low for maize, sorghums have their particular value. They have wonderful adaptability to different soils and climates, and will produce big yields of splendid fodder where maize would fail, and, in addition, the feed value of the grain is almost equal to that of maize.

The early varieties grow quickly even on poor land and under droughty conditions, and give green feed when most other things are withering. The late sorts grow under similar conditions, and stand well into the winter—even when the flag is frosted the stalks retain their succulence and sweetness—and provide a very palatable and fattening fodder when it is most acceptable.

Many farmers are reluctant to grow Sorghum for fear of poisoning their stock, but Sorghums are too valuable to exclude, and if the following is noted, they can be fed to stock with perfect safety. Firstly it has its best feeding value when the seeds are just hardening, and at this stage of growth there is no danger of poisoning unless frosted or stunted. Most cases of poisoning occur when the plants are half grown and checked by frost or dry weather. The surest method, however, of avoiding trouble is to cut the crop and allow it to wilt for a couple of hours before feeding

For ensilage, experience shows that Sorghum should be fairly mature before cutting. The stalks may look rather dry, but Sorghums should not be cut for silage until the seeds are hard. If cut too early the silage is apt to be acrid and inferior to that cut at the right time.

The earliest sowing of Sorghums should be made directly the frosts are over, and the second crop may be planted up to the end of January, November and December being the best months.

In rich, moist land, and where fineness is desired, up to 50 lbs. can be sown broadcast per acre, but in ordinary situations 30 lbs. is ample ; it is a good method in such land to sow in drills 3 ft. apart, and keep the land between the rows cultivated. In drills, about 10 lbs. per acre is sufficient. Prices vary with the market.

A Fine Stand of Sorghum No. 61.

VARIETIES.

No. 34.—A very good variety, but very early and can in some cases be grown to maturity by the end of the year. It is especially suitable where a very early sort is required.

EARLY AMBER CANE.—The earliest and the best variety to withstand droughty conditions. Largely used on irrigation areas, as less water is required to bring it to maturity.

SUMAC.—This is a fairly sweet variety and a very vigorous grower. It is thought that it may possibly take the place of Black Sorghum. As yet, however, conclusive tests of this variety have not been carried out.

PLANTER'S FRIEND.—For late crop, as it stands cold weather and retains its sweetness and feeding qualities even after the seed is matured.

SACCALINE.—Exceptionally rich in sugar, it is very palatable and fattening to all classes of stock, while its succulence and freedom from " pithiness " after standing through severe winter is most marked.

One of the very valuable habits of Saccaline is its persistent ratooning or throwing up of new growths from the roots when the matured stalks have been cut. It has in several instances stood through the winter, and then when all cut thrown up a fresh crop of fine stalks the following spring, and grown well through the second summer.

COLLIER.—A very fine variety, juicy and sweet. One which stands well into the winter ; is a clean grower, and has shown a decided resistance to red stain or rust. Its green fodder yield is heavy and it should be well worth trying.

HONEY.—This is the newest of all the varieties mentioned, and is reported to be a tremendously heavy cropper. No conclusive tests have been made of this variety yet.

No. 61.—Very similar to, and will doubtless be a rival to Saccaline. It is a sweet, succulent, heavy yielder, and is disease resistant. Matures slightly earlier than Saccaline, but is more frost-resistant and stands longer into the winter months.

WHITE AFRICAN.—This has perhaps showed out best, proving itself to be an exceedingly heavy yielder, and to be sweet, juicy, and disease-resistant. This variety should be planted fairly thick, otherwise it tends to become coarse in the stalk. Seed very scarce.

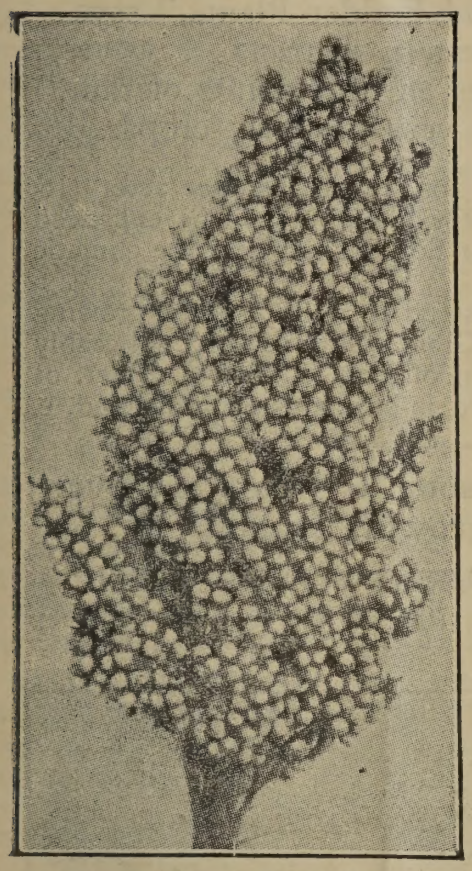
SORGHUM, SACCHARATUM or BLACK SORGHUM.—Good strains of this variety are not now available, as it has gone out of favour to a large extent. We do not expect to have supplies.

FOR PRICES SEE CURRENT PRICE LIST—POST FREE.

GRAIN SORGHUM

A Summer Grain Crop for the Inland

In districts where the average rainfall is too limited for the regular growing of Maize, Grain Sorghum is worthy of inclusion in all crop rotations. It has these characteristics :—(1) It will thrive on a lower rainfall than Maize. (2) The grain has a feeding value nearly as great as Maize. (3) The weight of grain produced is good, under fair conditions up to 40 or even 50 bushels per acre may be obtained. (4) It will succeed in soils too poor for Maize. (5) It can be used for fodder or for ensilage when the seed is in the "dough" stage. (6) Even when the seed has been harvested the foliage and upper stems are of value for the stock as roughage. (7) Unlike other Sorghums it is non-saccharine.



A Head of Grain Sorghum showing Enormous Yield of Grain

VARIETIES

KAOLIANG.—This is the quickest growing of the Grain Sorghums, and also the most drought resistant. It has been found that once the plant has developed it will not fail to set seed even under the most adverse conditions, but the average yield of seed is never so high as with the other varieties. It has thin, pithy stems and the foliage is sparse.

FETERITA.—One of the most promising Grain Sorghums for the interior, and is excellent for tiding over dry spells. Both the stems and heads have the capacity to hold on remarkably well until favourable conditions arise for the grain to form and mature, which it does very quickly.

MILO.—This is a very quick grower, but is generally the last of these Sorghums actually to set its seed. Where there is enough moisture to form seed, its yields are high. It will produce a considerable quantity of green fodder, up to four tons per acre without irrigation. The grain of this variety seems to have superior nutritive qualities, and on the whole it is one of the most attractive sorts for our semi-arid districts.

KAFIR.—A much slower growing variety than the others, and is noticeable because of its much more leafy and succulent growth. The plant itself is fairly drought resistant and will retain its succulence through long dry spells. Under good conditions this has given the highest yields of Seed (up to 120 bushels per acre when irrigated), but under adverse dry conditions it will hardly set seed at all, and so is only suitable for localities with a fairly favourable rainfall.

MODERN METHODS OF SEED CLEANING

We have built up in our own warehouse what is undoubtedly the largest and most complete plant in Australia for the cleaning and dressing of Seed ; much of this is of our own design and therefore particularly suited to our purposes.

The proportion of farmers who realize the folly of sowing unmachined farm seeds is now very high and is ever increasing, and in consequence of this we are continually adding to and improving our plant to cope with the demand.

A member of our firm has recently been in America and has thoroughly investigated the question of Seed Cleaning as practised there.

We have installed this year an additional and an entirely new type of machine, which, in conjunction with the present machines, will make possible still greater strides in eliminating weed seeds and foreign matter.

We have at present seven complete series of machines all electrically driven and occupying some 6,000 square feet of floor space. They have a capacity of 18 to 20 tons of cleaned seed per day, and for the greater part of the year the whole plant is working at full pressure.

The main principles employed in modern Seed Cleaning are :—Revolving Cylinders, Wind Blast, Surface Attraction (*e.g.*, Velvet Rollers), Brushing. Each of these methods serves a particular purpose, but it is the continuation and the co-relation of two or more that mean clean sample, and it is here that skill and long experience count.

All this machinery and our long experience is at your service for a small extra charge over what must be paid for rough dressed Seed. Is it not worth it ?

BUSHEL WEIGHTS

We show herewith the weights per bushel as standardised under the N.S.W. Weights and Measures Act. Many of the lines mentioned (such as Clovers and some of the Grasses) are not usually priced or sold by the bushel, but in all cases where customers order bushel weights we will reckon the number of pounds to the bushel as stated herewith.

	Lbs. per Bush.		Lbs. per Bush.
BEANS	60	HUNGARIAN MILLET	60
BARLEY	50	LUCERNE	20
BROOM MILLET	50	MAIZE	56
BUCKWHEAT	50	OATS	40
CLOVER :		PEAS	60
Red or White	20	RYE CORN	60
GRASSES :		SORGHUM	60
Couch, Cocksfoot, Paspalum, Rib and Rye	20	TARES or VETCHES	60
		WHEAT (Seed)	60

SUDAN GRASS

THE WONDER CROP FOR THE WEST

A SUMMER FODDER CROP FOR DRY AREAS.

Coming from northern Africa, this grass has inherited a resistance to drought which even exceeds that of many of our native grasses. Mr. E. Breakwell, in his book, " Grasses and Fodder Plants," says— " It may be said to be the most drought resistant grass yet grown in the western districts . . . . Even on a dry seed-bed the seed will germinate and produce healthy seedlings on fifty points of rain." It is a persistently heavy cropper, with a high feeding value, and one of the very best hay crops.

AS a summer crop Sudan Grass has come into striking prominence during the past few years. We believe that this grass is destined to take a very high place among our summer fodder crops. Though not so heavy a yielder in its primary growth as some of the Millets, after the first crop is taken off, Sudan Grass stools quickly and comes again and again in a miraculous manner. The rapidity of growth and weight of crop of the second, third, fourth, and in some cases fifth cuts surpasses anything else among the summer fodders.

Sudan Grass requires a good seed bed and a certain amount of moisture in the soil to germinate quickly and evenly, but, once estabilshed, it has proved itself to be of great drought resistance, in fact, it can be accepted that Sudan and Grain Sorghum are the only summer fodder crops that will give consistently good results in the western districts of N.S.W. Its palatability, green, or in the form of hay, is indicated by the greedy manner in which all classes of stock eat Sudan Grass. Its fodder value, tested under chemical analysis, is stated to compare most favourably with wheaten or lucerne hay. Sudan Grass stands grazing extremely well, and it is probably the most valuable of the summer-growing fodder crops for this purpose.

A member of the Sorghum family, Sudan Grass is an annual and must be sown down each year. It is most sensitive to frosts, and should not be sown until all danger of such is over, and then as early as possible so as to ensure a good growth and a strong stand by midsummer. Prepare the land as in the cultivation of wheat or sorghum. Sow either in drills or broadcast. If in drills, about eighteen inches to two feet apart, sow 6 lb. to 8 lb. to the acre. This allows of cultivation between the young plants, assisting materially in helping on the young growth by conserving the moisture and checking the weeds. For the man sowing a large area, probably the most practical method of sowing this crop would be through the ordinary grain drill—perhaps alternate hoes—at 8 lbs. to 12 lbs. per acre—or failing that, broadcast at the rate of 12 lbs. to 16 lbs. per acre. Its value as a grazing crop is very high, but will be enhanced by growing with Cow Peas or Soy Beans where the climatic conditions permit.

As will be readily understood in such a quick growing and vigorous plant, Sudan Grass responds very noticeably to fertilizers. An application of from 1 cwt. to 2 cwt. of superphosphate with the seed is strongly recommended.

Order early—sow as soon as frosts are over, to get a long growing season.

FOR PRICES, SEE CURRENT PRICE LIST, POST FREE.

Harvesting Sudan Grass for Silage.

A Word on "Stock Poisoning"

LITTLE RISK WITH SUDAN WHEN RELIABLE SEED IS USED.

There is much misconception about poisoning of stock by Sudan Grass, and we feel that a little space allowed here for a brief statement of the facts will be well used.

In tests carried out by the Department of Agriculture over a series of years, using a pure strain of seed, no trouble from poisoning has ever occurred. This in itself would show that the risk, if any, is infinitesimal when using a pure strain.

But Sudan Grass is very closely related to the Sorghums and will readily cross with them if grown nearby, forming a hybrid, which is quite distinct from ordinary Sudan Grass, and shows broader leaves, coarser stems, more bunchy seed heads, and more vigorous growth. These hybrids are usually easy to see growing in the crop, and, if present, should be rooted out. Sweet Sorghums are definitely known to be poisonous under certain circumstances, and so it is not hard to understand that a hybrid would probably show the same tendency.

Although we cannot and do not guarantee that the Seed we offer is free from hybrid strains, we wish our customers to know, that realising as we do the importance of this matter, we take the greatest care in the selection and examination of our samples, besides making exhaustive enquiries about the origin and place of growth.

Finally, in considering the advantages and disadvantages of Sudan Grass as a fodder, we would suggest that the slight risk involved is far outweighed by the great economic value of, and the big returns so easily obtained from, this wonderful summer fodder crop.

SUNDRY FODDER CROPS

BURNET (Sheeps).—This fodder plant has proved itself suitable for our dry inland country where it would be futile to sow English grasses, and where the soil is not suitable for growing Lucerne. It thrives alike in rich or poor land, and on either flats or hills; it gives great results in the undulating land about Wagga, where neither Lucerne or Rape will succeed. It is one of our best drought-resisting plants, and remains green when every other fodder is burnt up, springing again with light showers that would have not the slightest effect on the grass; it is absolutely permanent, and when once established does not die out. It is a herb, not a grass, grows from 15 to 18 inches high, and has a long tap root, which enables it to stand dry weather and grow when other plants, with shallower roots, are drought-stricken. It grows both in summer and winter, giving the greatest rush of feed in the spring. All animals are fond of it, and thrive well on it, but it is particularly suitable for sheep. Sow 10 to 12 lbs. per acre. Burnet may, with advantage, be included in grass seed mixtures for poor soils; being a deep rooter it does not rob the surface-rooting grasses and succeeds where better grasses fail.

SUNFLOWER.—Valuable, when growing, as shelter to young crops, and the seed forms a most excellent food for poultry and in fact all stock. Eight to twelve pounds will sow an acre in rows three feet apart, and it requires the same soil and climatic conditions as Maize. In U.S.A. it is now being used quite a lot for ensilage; it has been found of considerable value for this purpose. (Black Seeded or Striped).

ARTICHOKES (Jerusalem).—These are similar to Potatoes, and require the same cultivation, but we would plant in rows two to three feet apart. A most desirable and delicate vegetable. They yield very heavy crops and are excellent for pig feeding, especially where pigs can be turned in to root them out; their fattening value is 25 per cent. greater than potatoes. Four to six cwt. will plant an acre.

Sunflower in the field. Yields of 20 tons to the acre are obtained.

Artichokes are Unexcelled for Pig Feed.

BUCKWHEAT (Japanese).—A splendid quick yielding fodder crop and valuable for fowls. Japanese are the largest and most vigorous varieties. Sow 20 lbs. per acre.

CANARY SEED.—So largely grown for bird seed. It may also be used for hay purposes, requires similar culture to wheat; sow 17 to 20 lbs. per acre. Queensland grown seed, and extra large seed, Morocco grown.

LINSEED (N.Z. Grown).—This is grown either for seed, for oil purposes, or for the fibre for linen making, but requires special conditions, which intending planters should inquire into if putting in large areas.

MELONS, CATTLE.—A mixture of suitable sorts. Generally the Cattle Pumpkins are to be preferred, but the Melons form a juicy stand-by fodder.

MUSTARD.—For a quick green fodder for fattening lambs, Mustard can be recommended. Sow eight pounds per acre. It is also frequently mixed with Rape. It is ready a few weeks after sowing.

PUMPKIN, CATTLE.—The Pumpkin crop is invaluable for winter feed for milking cows and young calves; 1lb. will sow an acre.

Mammoth Cattle.—Very large, heavy cropper.

Gramma.—A long shaped variety, big yielder.

Mixed Cattle.—Including types of Ironbark and similar varieties, excellent for productiveness and keeping quality.

SILVER BEET.—This plant is grown for the green tops, not for the roots, as with other Beets. It is found in New Zealand that the foliage is reproduced so quickly after being eaten down that it makes an excellent crop for sheep fattening. Plant in rows, 30 inches apart, so that the land can be hoed, and thin from 9 to 12 inches apart in the rows. Sow three or four pounds per acre.

TEOSINTE.—As this has been largely superseded by other crops, and as we have little or no demand we have discontinued stocking.

SOWING RAPE

Sowing Rape is one of the most profitable stock fodders for fattening. In addition, it is a very useful rotation crop and soil renovator on account of its vigorous deep rooting habit, which penetrates subsoils to a considerable depth.

RAPE is the great fodder plant for sheep husbandry in Australia, and with the widespread recognition of the value of combining sheep and wheat, Rape is now becoming a very important crop on the wheat farm, not only for sheep feed, but also a rotation crop and for renovating wheat land. The cost of the seed is so little, and the cultivation so simple, that it cannot fail to be much more largley used.

If paddocks, which are showing signs of exhaustion under wheat, are ploughed and a crop of Rape sown, say early in March, it will give an enormous quantity of sheep feed during the winter and following spring, which will fatten ten or twelve sheep to the acre for some months and if during the following summer, the remains of the crop and sheep droppings are ploughed in, the land will be very much enriched, and if sown with wheat again, a greatly increased yield will result It is easy to see how profitable it is to utilise the land in this way. Even if owing to unfavorable seasons, the crop of Rape comes to nothing, there is very little lost, as the cost of seed is so little.

Rape is equally good for pig feeding or even cattle, so long as it is not given in quantity to milking cows, as it is apt to taste the milk.

Where large breadths of land are not available, there are often paddocks about a homestead which will give enormous yields of fodder if sown with Rape, and which would be particularly valuable for feeding stock during the scarce season ; they all eat it greedily.

Sheep put on to Rape fatten very quickly ; even old broken mouthed ewes, that would starve on an ordinary pasture, very soon put on flesh, and are fit for the butcher. They should, however, be sent to market as soon as they are " topped off," as if put back on to grass they very soon lose condition again. As a means of fattening lambs for the English market, there is nothing to equal Rape ; they are soon in the pink of condition as required for the export trade, and if there are two or three paddocks of Rape, so that as soon as eaten down, each paddock can be " spelled " the plants soon recover and give a second or third crop almost as good as the first ; in fact, if sown in the early autumn it should give several months' feed.

Poultry farmers are finding a small patch of Rape a valuable asset, and for this purpose small successional sowings should be made through the autumn and again in the spring.

Some growers prefer to sow it with Rye Corn, say half-bushel of Rye and two pounds of Rape ; others sow it with Mustard, using half-a-pound with four pounds of Rape per acre. The inclusion of Mustard corrects the tendency of Rape to sometimes scour.

We recommend sowing in February, March or April, after the good autumn rains, but as early as possible after the middle of February. It can also be sown with advantage in the early spring, especially in the cooler districts. It is extremely hardy. The land should be deeply ploughed and well worked, but if sown on stubble land, it would be enough on light soils to thoroughly stir the surface with a disc harrow ; but ploughing and harrowing would be much better still. Sow three pounds per acre in drills, or four to six pounds broadcast (if drilled, so much the better). Where a machine is not available it may be sown broadcast by mixing with several times its bulk of dry soil, which will materially help to distribute the seed evenly ; or it may be evenly distributed with a Cahoon or Columbia Broadcast Seed Sower. We can supply these useful little implements—see page 31. We do not recommend that Rape should be sown on poor hungry land, as it will not succeed ; it requires good soil and deep cultivation, and will well repay the labor expended in preparing the land thoroughly. Where manure is employed in growing Rape (and it is a crop which quickly responds to such attention) we would recommend one rich in ammonia say blood manure or fine bonedust ; superphosphate is also used with great success.

Rape is Unexcelled for Pig Feed.

As there are several varieties of Rape, some very much better and yielding larger crops than others, also, as many of the cheapest samples are tainted with wild mustard or yellow weed, we would strongly advise growers to buy our re-cleaned seed, and note that each bag is sealed and branded.

QUICK DESPATCH IS OUR AIM.

Mr. P. B., North Dorrigo, 22-3-26, writes :—" Some time back I sent a wire for some Berseem Clover, for which I desire to express my thanks for quick despatch of same. It came before the rain had cleared, and is now well up and doing fine. Every seed seems to have struck, and I am sure it is going to be one of the leading fodders in this district in time."

ROOT CROPS

THESE are worthy of greater attention from Australian farmers. Here we have valuable food in a concentrated and easily handled form. The weight of fodder per acre to be realised from root crops is enormous.

The quality of the fodder is very high and where any hand feeding is practised it is not a difficult matter to feed the roots. In Australian climates Mangolds, Sugar Beets and Carrots will stand fairly well in the ground right through the winter, and they can be pulled and fed as required.

MANGOLDS & SUGAR BEET

Wonderful milk producers, and yield immense crops. Sow about September-October; in warm climates an autumn sowing will give a fine crop. Plant in well worked clean land, in drills 30 inches apart, to allow horse cultivator to work and when up hoe to remove any growth of weeds, and if necessary to thin out to allow the roots to develop. Five pounds per acre of Mangolds and about eight pounds per acre of Sugar Beet are fair sowings.

YATES' MAMMOTH LONG RED.—A very select stock. The roots are of excellent quality, clean, smooth and free from fangs; flesh close grained and full of saccharine. The heaviest cropping Mangold grown.

YATES' CHAMPION YELLOW GLOBE.—A very select stock, small top; flesh close in texture, excellent feeding quality.

GOLDEN TANKARD.—An excellent keeper. The roots medium size, with deep yellow flesh, and contain high percentage of saccharine.

LONG YELLOW–An excellent variety, very heavy cropper.

SUGAR BEET WANZLEBEN.—Half long white roots, sweet and crisp.

GIANT HALF SUGAR MANGOLD.—We keep the two varieties, White and Rose. They are sweeter than the ordinary Mangold and larger than Sugar Beet, combining the quality of the Beet with the weight of crop of the Mangold. Tested against Sugar Beet it yielded twice the crop. Intermediate in size, averaging about one foot in length.

Testing Mangolds at Timperley, England, on the Trial Ground of our Manchester House.

SWEDE TURNIPS

Swedes can be grown cheaply and with comparative ease on much of the upland country of N.S.W., not only for stock, but for the vegetable market. For sheep they make an excellent fodder, especially as they become available during the winter and early spring when most needed. Sowing should be made in February, March and April at the rate of two to three pounds per acre in drills about two feet six inches apart. Up to one hundredweight of superphosphate will cause considerable increase in weight and vigor of crop.

YATES' CHAMPION PURPLE TOP.—A standard globe-shaped variety, which gives wonderful returns and is the standard sort for growing for market. Our strains are unexcelled, the crop comes in evenly and the Swedes are well shaped, large and keep well.

YATES' MONARCH.—A large tankard-shaped variety, with purple top. Heavy yielder and a good keeper. Excellent for stock or market growing.

FIELD CARROT

Valuable for all classes of stock, particularly horses. Sow any time in spring or early summer, when the weather is favourable, at the rate of four pounds per acre in drills 30 inches apart for horse work or closer if for hand work.

WHITE BELGIAN.—Grows well out of the ground, so it can easily be pulled by hand.

ORANGE GIANT.—A rich orange red variety, very handsome and smooth, producing large crops.

YATES' Re-Cleaned SEED GRAIN

IN SEALED AND BRANDED BAGS

THE importance of sowing only Re-cleaned and Re-graded Seed Oats and Seed Wheat for green fodder as well as for grain is now beyond the experimental stage. The high cost of labour and high land values make it more than ever necessary to get the most out of the cultivated land. It is better to have ten acres of a really good crop than twice the area giving only an indifferent yield.

SEED OATS

Prime Heavily Re-cleaned Samples.

We have proved on our own farms that the most profitable method of feeding dairy cows for eight months of the year is to plant Algerian Oats for grazing. To get the best results the cultivation land should be divided into three or four small paddocks; the crop which has been eaten down soon recovers after a few weeks' spell, but continual grazing is wasteful, not good for the crop or the cows. We recommend that a dressing of 1cwt. of Bonedust or Superphosphate be used, also five or six pounds of Clover seed per acre be planted with the Oats. This will give a more balanced ration and so increase the milk flow; it will also maintain the fertility of the land, and give a good stubble-feeding during the following autumn.

We have found Algerian Oats to be by far the best variety for grazing; being of finer growth it stands a good deal of trampling and its spreading habit and strong root growth prevent it from being easily pulled out. If shut up in the early spring a crop of hay may be harvested in addition.

For cutting purposes some of the vigorous-growing early Oats like Mulga, Sunrise, etc., may prove superior in the milder climates; these are tall growing and have fleshy stems, and come very quickly; in fact, they grow almost as quickly as Barley and are superior to it for feeding value. They will however not stand extremes of frost like the Algerians, and, on account of their coarse fleshy growth, do not stand trampling and hard grazing so well.

For late sowing in the cold districts the Tartarian and heavy varieties are preferred.

VARIETIES.

Algerian	**Mulga**	**Sunrise**
Myall	**Yarran**	**Warrigal**
Guyra	**Ruakura**	**Heavy White**
White Tartarian	**Black Tartarian**	**Heavy Black**

RYE CORN (Mammoth White)

Rye is a very hardy plant, and is largely used for winter feed, especially where the climate is severe; it will stand the heaviest frost. It is particularly good when fed off; many experienced farmers preferring to use it this way, as they find their stock do best while the Rye is young.

It will stand grazing all the winter and rapidly grows again after being eaten down. It is also used for mixing with Tares, the Rye serving to hold the Tares off the ground. Rye comes into use very early. It is also sown to advantage mixed with Rape. The straw is very valuable for thatching, and some farmers sow the headlands of their hay paddocks with Rye Corn for thatching the stacks. Sow about two bushels to the acre.

SEED WHEATS

Prime, Heavily Re-cleaned Samples. Grown from Select Stocks.

A large proportion of our seed wheat supplies has been specially grown for us by Yates Bros. Ltd., Cudal, from specially re-graded seed of selected stocks.

Wheat is largely used for green fodder and for hay as well as being the world's most important grain crop. It stands dry conditions better than almost any other grain and is therefore of great value for fodder and for hay, as well as for grain in districts of low rainfall. It will often give good crops in seasons which cause oats to be a failure.

Following we give a list of varieties which we offer this season, but as supplies of some varieties are somewhat limited, early enquiries are invited. The advantages of sowing only whole plump grain free of pinched broken seeds, weed seeds and foreign matter, is now proved to be worth many, many times the slight extra cost per acre for Re-cleaned Seed; in unfavorable seasons it may mean the difference between a crop and a failure.

Thew and Florence are of special value for green fodder under coastal conditions.

Sow up to 2 bushels per acre together with a dressing of 56lbs. to 112lbs. superphosphate per acre, according to location and quality of the land

VARIETIES

Florence	**Thew**	**Canberra**
Federation	**Hard Federation**	**Yandilla King**
Marshall's No. 3		

BARLEY

Barley is the earliest of the grain crops to mature and in this earliness lies also its great value as a green fodder crop. It is one of the sweetest fodders grown and is relished by all classes of stock.

For the farmer's purposes, the Barleys can be classed into three, namely:—Cape Barley, Skinless Barley, and English or Malting Barleys. Cape Barley is the one most generally used for green fodder; it grows very quickly, but as it is not so hardy as other grain, it is most suitable for early use in cold climates. Skinless is also a good variety, coming very early to maturity, and affording two cuttings; it should be grazed after each cutting; the close feeding seems to cause it to come again with renewed vigor. English or Malting Barley is usually grown for grain for malting purposes, but there are two varieties which absolutely stand out as green fodder sorts, viz., Trabut and Pryor.

Trabut is a heavy yielder and abundant stooler, maturing two to three weeks earlier than Cape. Pryor is similar to Trabut, and is very leafy with fine succulent stems.

These Barleys all make excellent silage. The addition of Field Peas when sowing makes a combined cereal-legume crop of high nutritive value.

Barley should be sown broadcast at the rate of two bushels per acre, or if drilled one bushel should suffice.

OATS AND FAT LAMBS

A CHEAP PROFITABLE CROP FOR AUTUMN PLANTING

IN the drier parts of the wheat belt great interest is being evinced in the growing of oats as a rotation crop and for sheep fodder.

Considerable success has attended the experiments of farmers in the Parkes district, which is typical of this area, and they find that by fallowing and sowing oats in rotation with their wheat, the yields of wheat are considerably increased, and in addition a bulk of sheep feed is provided, being mainly used for raising fat lambs, which are very profitable.

If the oats are sown after a wheat crop which was on fallowed land, usually only one working is necessary, and it is estimated by practical farmers that 10s. per acre covers the cost of cultivating, sowing, seed and manure.

The following rotations are suggested :—

(a) 4 year rotation, wheat, oats, fallow, grazing.
(b) 3 year rotation, wheat, oats, fallow.
(c) 2 year rotation, wheat, oats and fallow.

The above are self explanatory, the last mentioned being especially suited to the small farmer who desires to obtain maximum returns from wheat, to have a clean farm, and to carry a small flock of breeding ewes.

The quick growing varieties of oats are eminently suitable for this system. Mulga and Sunrise oats are very good for grazing and hay, while Myall and Warrigal are also good grain yielders. Healthy vigorous, plump graded seed is essential to the production of a quick growing, heavy stooling, even crop. We will have the above varieties and many others in the early autumn. Write for particulars and prices.

AUSTRALIAN SALTBUSH

The Plant That Makes Fodder When Feed is Most Needed

The cultivation and preservation of our native Saltbush has been very much neglected. Its drought resistance and ability to thrive in the most arid situations is proverbial and the different members of this important family succeed in a very wide variety of soils. In our inland districts it will be found that areas put under Saltbush at little cost will help very considerably to tide over the long dry spells. The value of the Saltbush has spread abroad and a large area of "useless" country in U.S.A. have now been reclaimed with this plant. Although not sought after by stock when grass and herbage are available, Saltbush is readily eaten in times of scarcity, when it is most needed, and chemical analysis has shown that the nutritive content is high. Once established they grow quickly and with reasonable protection seed freely. Mr. Fred. Turner in his book "Australian Grasses and Pasture Plants," is a strong advocate of the more extensive use of this plant. Speaking of Atriplex nummularia he writes :—"During my extensive travels in Australia, describing the indigenous and acclimatised vegetation, I have seen several disastrous grass fires in the interior. Where Saltbush was fairly abundant the effects of the fires were not nearly as disastrous as where this valuable vegetation was scarce, or had been eaten out by stock. The succulent leaves of the Saltbush were only slightly scorched after the fire had passed over the country, and the growth afforded great protection to the more delicate grasses and herbs, which soon begin to grow again if the weather and soil conditions are favorable. It was after making these observations that I advocated the planting of the Old Man Saltbush as a firebreak, for it is easily cultivated and grows rapidly. A plantation a chain wide or more, and as long as desired, could be formed between two parellel stock-proof fences at comparatively little expense. Such a plantation would answer the double purpose of affording excellent feed for cattle and sheep (the upper growth being judiciously cut for this purpose) and providing a dense growth that would arrest the progress of the fiercest bush fire that menaced homestead and crops. It is not necessary to plough or otherwise work all the land between the fences for the reception of the seeds. All that is required is to pulverise the soil in patches, eighteen inches square, and one foot deep, at intervals of from eight to ten feet, with a strong hand hoe, and thus form a good seed bed, which should be slightly concave on the surface. In the centre of each depression sow half a dozen seeds, preferably in early spring, and leave them covered with about half an inch of fine light soil. The only attention that is necessary is to keep the weeds and grass in subjection about the young plants after which they will take care of themselves. Under ordinary conditions Saltbush raised in this way will have grown from four to five feet high by autumn."

Saltbush is not difficult to raise from seed or cuttings. or roots. Seed should be sown in the autumn or early winter, either direct or in a nursery bed and later transplanted.

The Dept. of Agriculture recommends that the plants be raised in nursery beds and transplanted when about twelve inches high.

We think that greater consideration than hitherto might well be given this plant by graziers in our western slopes and plains country. One pound should seed about an acre.

VARIETIES.

The two varieties of greatest value are :—

ATRIPLEX NUMMULARIA (Old Man Saltbush)—Grows to six or ten feet or more with numerous spreading branches carrying thick succulent foliage. Very hardy.

ATRIPLEX SEMIBACCATA (Creeping Saltbush)—A creeping variety especially suited for sheep country. Under cultivation it has shown very rapid growth.

TREES FOR FODDER, SHADE, SHELTER AND ORNAMENTATION

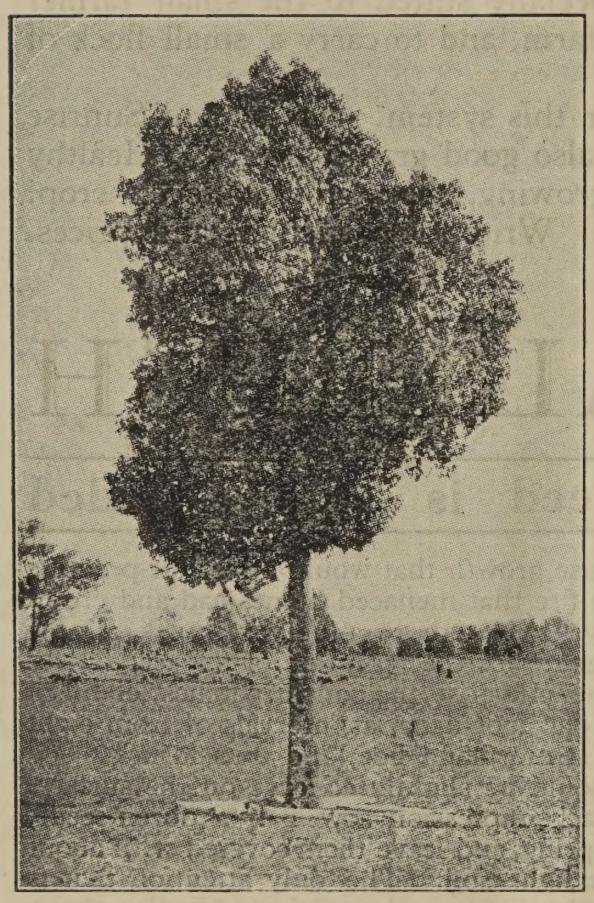
ONE thing that strikes the observer about many of our country homesteads is the absence of shelter or shade trees. How much cooler and more attractive a country house looks when it is nestling and half-hidden in a grove of trees. But trees have their commercial value also, and quite a number of species are edible for stock, and their value in the dreaded drought time is incalculable.

The value of shade and shelter to stock is often underestimated by pastoralists. A little rough hill covered with stunted gum trees is worth much more for the shelter it provides than the snall amount of grass it would grow if it were rung.

THE planting of trees is a very small expense and the benefit they bring in after years will repay this many times over. The ground should be worked up and prepared for them in the early autumn months, as in all but the coldest places winter planting is usually best. When planting be careful to put the subsoil in first and surface soil on top, and trample it well down, so that the young roots may be able to grip the soil. While the trees are young, light guards or netting are necessary to protect them from stock or rabbits.

E signifies Evergreen. D signifies Deciduous.

EDIBLE TREES AND SHRUBS



The Kurrajong, one of Australia's most useful and ornamental trees.

KURRAJONG (Sterculia diversifolia) E.—A tree that combines palatability and a relatively high nutritive value as a fodder, with ability to grow in almost any part of our pastoral country, and great use for shelter and a fine appearance, surely deserves to be widely planted. What finer investment for the pastoralist than plantations of this beautiful tree. Although slow growing at first, it will in a few years form a very shapely tree, and the rate of growth will probably be accelerated with a little judicious cultivation round the tree. The chemical analysis of the foliage is very good, and after any long dry spell the lopped trees one sees everywhere is the best testimony to its value. The more care that is exercised when lopping, to take only the finer branches, the quicker the tree will recover.

Seed should be sown from autumn on to early spring, and usually germinates readily. The seedlings must, of course, be given protection if planted in the paddocks, but growth will probably be quicker if they can be put out in blocks and fenced off and the ground worked now and again. Plants are always available and may be put in any time.

CAROB BEAN TREE (Ceratonia siliqua), E.—This is a hardy evergreen well suited to hot dry climates. The seed pods are edible. Plants may be put in any time.

HONEY LOCUST TREE (Gleditschia triacanthos), E. A leguminous tree having pods with a very rich food value. This tree has given very good results at Hawkesbury Agricultural College as shelter, shade and food for pigs, and should be adapted to a wide area of New South Wales. Seed may be sown from the autumn and plants can be put in any time if looked after.

TAGOSASTE (so-called "Tree Lucerne)"—A quick growing shrub or dwarf tree. It makes excellent shelter round the fences of paddocks, and in periods of drought and scarcity would make an excellent stand-by for feeding. We do not value it very highly as a fodder, but used as above it is well worth growing. It is also unequalled as a breakwind round an orchard or garden. Having a deep tap root it does not rob the surrounding land as other trees do; in fact, crops can be successfully grown close up to them. In its flowering season it gives a great harvest to the bees. The plants are easily raised from seed, which should be soaked in warm water before planting. It is best to sow the seed where they are to grow, afterwards thinning them to proper distances apart.

TREE LUCERNE (Medicago Arborea).—The true Tree Lucerne, growing six feet or so. Pretty ornamental plant, and useful for fodder in drought times.

It is also claimed to be of value as a honey plant.

TREES FOR ORNAMENTATION

LOPHOSTEMON or CINNAMON BOX (Tristania conferta), E.—A valuable shade and street tree of very rapid growth, suited to warm coastal districts. Strong plants are always available.

CAMPHOR LAUREL (Camphora officinalis), E.—One of our very best evergreens, doing well in all but very dry places. For a tall hedge or dust break it is unsurpassed. Plants always available.

PINUS INSIGNIS (E.)—This needs no description, being almost universally known. Suitable for bleak situations on the coast and for the tablelands. Plants may be put in any time, while if the seed is preferred it should be sown in the autumn.

PLANE TREE (Platanus orientalis), D.—A beautiful tree for avenues or specimen planting. Suited to all except dry inland climates, plants should be put in during the cooler months while the leaves are off.

PEPPER TREE (Schinus Molle), E.—No tree is more suited for the hot dry inland districts than this. It provides an abundance of shade and grows rapidly. Plants may be put in any time while the seed is best sown in the autumn.

MAHOGANY GUM (Eucalyptus botryoides), E.—A very fine and beautiful shade tree which does well in most climates. Seed is available and should be sown in autumn, while plants can be put in any time.

SUGAR GUM (Eucalyptus corynocalyx), E.—Largely planted for fodder and shelter purposes. We always have seed and plants, the latter can be put in any time of the year if they are given a little attention.

SILKY OAK (Grevillea robusta), E.—A valuable nammental and timber tree, it makes one of the very finest cabinet woods. We have no seed, but can supply strong plants which can be put in any time of the year.

YATES' HAND PICKED SEED POTATOES

THE SEED POTATOES offered in this list are all prime, graded samples, drawn from the leading potato growing centres, carefully hand-picked, in our own warehouse, outsized and diseased tubers being thrown out. The bags we send out are all stencilled "YATES' HAND-PICKED SEED POTATOES," and customers should see that the bags they get are so branded, otherwise they were not sent by us. It is quite impossible to guarantee Seed Potatoes to be free from the spores of Irish Blight, and the crop should be regularly sprayed where Blight conditions are prevalent.

Potatoes should be planted for early use as soon as the frosts are over. A few may be planted rather earlier as it is worth running some risk to get early potatoes. Open drills about 30 inches apart and six inches deep. If possible, put in this drill a layer of well rotted stable manure; a dressing of some potash manure is also very beneficial. Potatoes up to two or two-and-a-half inches should be planted whole, those larger may be cut, care being taken to leave two eyes at least on each set. Plant the tubers about twelve inches apart in the rows. As soon as through the ground, keep the soil cultivated and when plants are about six inches high they should be earthed up by throwing the soil towards the rows.

ALL SALES ARE MADE ON THE FOLLOWING CONDITIONS OF SALE AND NON-WARRANTY.

We believe that all Seeds, Bulbs and Roots sold by us are of the description and kind specified by us at the time of sale; but owing to the practical impossibility in many cases of being certain of this, we give no undertaking that such Seeds, Bulbs or Roots will correspond with the description under which they are sold, and we make all sales subject to this condition. We further give no warranty, expressed or implied, as to their growth, description, quality, or productiveness, and will not be in any way responsible for the crop. If the purchaser does not accept the goods sold to him on these terms, they are at once to be returned to us, and any money paid to us will be refunded.

ARTHUR YATES & CO., LTD.

DESCRIPTIVE LIST OF VARIETIES

EARLY MANISTEE—This has proved perhaps the best of the Early Varieties. It has a pink-brown skin, is of fine flavour and boils dry. One of the heaviest croppers in the early section. It is yearly becoming increasingly popular and has been found a suitable variety for light land. Supplies doubtful.

EARLY ROSE—Well known as one of the Earliest Potatoes grown, and one of the best for early use if grown on suitable well-drained land. A good boiling variety, but its principal merit is its earliness and its suitability for our warmer districts where there is only a short growing season, and where it always yields fair crops.

EARLY VERMONT—Very similar to the Early Rose, the tubers being longer, not so smooth, and with more prominent eyes; good cropper and quite as early as that variety. Often called American Early Rose.

EARLY MANHATTAN—One of the heaviest yielding main crop varieties we have. A good cooking sort, firm white flesh, shallow eyes, and mottled blue and white skin. A handsome shapely potato, well suited to the Sydney market.

CARMAN—Fairly Early Variety. Heavy cropper, flat oval tubers, shallow eyes, uniform in size and shape, and boiling flowery.

SATISFACTION—A pink skinned round variety, largely used in our coastal districts. It is one of the best keepers. Flesh white, boils dry, shallow eye.

ADIRONDACK—Main crop. One of the best keepers we have. The tubers are round, inclining to flat, with pink netted skin. They boil well and will give good crops in a suitable season, and in cool moist climates, where they have a long growing season; they are good croppers.

BROWNELL'S BEAUTY—A favorite main crop potato in New South Wales. It is a consistant cropper, and seems to do well alike in both hot and cold districts.

TASMANIAN BROWNELLS—A white fleshed main crop potato. It is a consistent cropper, and seems to do well in a wide variety of districts.

FREEMAN—A good early sort. Tubers are oval and of russet brown colour, while the flesh is pure white and of fine texture. Cooks well; good flavour.

UP-TO-DATE—A good general purpose potato. The tubers are of good size and shapely with shallow eyes and white skin. Does very well in the cool moist districts, and is also a favourite with market gardeners in Sydney and similar climates for their supplies of "new potatoes."

CUSTOMERS, NOTE!

PRICES—Owing to fluctuations in Market Value of Potatoes, we must reserve the right to vary prices without notice. We can quote definitely by return of mail for any lines required. Customers when asking for a quote should mention quantity required and when they wish them supplied. **We Quote Special Prices for Ton Lots.** To assist planters, we will, if **sold out** of variety ordered, **substitute a variety similar in season and type,** and one which we consider should give satisfactory results. If customers do not desire this, please instruct. **"Do not substitute."**

ORDERS FROM OTHER STATES—In connection with interstate orders we can only supply on the understanding that our responsibility ceases when a clean certificate has been obtained from the Department of Agriculture, Sydney. Customers in other States, when ordering Seed Potatoes, are requested to advise us that they agree to this condition.

TERMS—The prices of all Seed Potatoes are Nett Cash.

DELIVERY—We Deliver Free on Rail or Steamer, Sydney, after which they are at the risk of the purchaser.

Delivery within the Suburban Area of Sydney is charged extra at the following rate: **6d.** per 14lbs., **9d.** per 28lbs., **1s.** per 56lbs., **2s.** per cwt.

MARKET GARDEN CROPS

FOR SPRING, SUMMER AND AUTUMN PLANTING

IN districts within reasonable distance of the centres of population and with a fair average rainfall, it is often well worth while for the farmer to reserve some of his best land for vegetable production for market.

The essentials for successful market gardening are good soil, good rainfall or facilities for irrigation, rotation of crops, ntelligent use of fertilisers and regular cultivation.

Few crops average out as well as Cauliflower, Cabbage, Pea, Bean, Swede, etc., if grown under suitable conditions. It will be found that the man who, having decided what crops are best suited for his conditions, consistently grows those crops on a well thought out rotation, does better than the grower who is constantly changing over and thereby often meeting a "glut" of the particular line he is growing.

For best varieties, time to plant and for cultural directions, farmers should be guided by local experience and the information given in Yates' Annual and Yates' Garden Guide (1s., post free).

The higher returns regularly obtained by experienced men are evidence that skill and care are very necessary in this branch of farming. Where conditions of soil and season are not favourable, and where varieties have been sown unsuitable to the time of planting or the district, the crop is likely to vary considerably in type, season of maturing and uniformity. Our advice is to grow those varieties your neighbours have proved to do well, and then make your own experiments in a small way as to the suitability of later introductions and improved sorts.

Attention is directed to the Conditions of Sale and Non-Warranty set out on inside of Front Cover and on all invoices.

BEANS

For the warmer districts round Sydney and on the North Coast, beans are the prevailing market crop, and in those districts where early crops are possible very handsome returns are being obtained. The same remarks as to the desirability of growing this crop apply as they do to Peas. As to varieties, Canadian Wonder is the standard sort, but there are inferior strains offering. **Yates' Selected Canadian Wonder** are the primest samples offering of a heavy cropping type. No better bean for market growing is offered. Usually two bushels per acre is a good sowing, and we advise sowing in drills far enough apart to permit of frequent horse cultivation in the early stages of the crop. Prices on application.

CABBAGES

Cabbages do best on rich deeply worked soil, and are largely grown on the cooler upland country near Sydney. The main planting should be made in December, January and February in most districts. Raise the plants in seed beds, transplanting out into rows when large enough t o handle, 24 to 30 inches apart each way. About ½-lb. of seed is required to raise plants for one acre. The two leading sorts are :—

YATES' EARLY DRUMHEAD.—One of the finest market cabbages grown. There is no better variety for standing the hot summers. The heads are large and solid and in good seasons it matures in four months. We offer Yates' Specially Selected Strain, grown on our own Seed Farm. This strain has given great satisfaction. We also stock European grown seed.

HENDERSON'S SUCCESSION.—This and Yates' Early Drumhead are the two main cabbages used by market growers throughout Australia. It is a week or two earlier than Drumhead, otherwise very similar. A good carrier and the best and longest standing cabbage for autumn planting for spring use. Our speciality is Yates' Re-selected Strain, specially grown on our Tasmanian Seed Farm, and of this seed we have received many complimentary reports. We can also supply European and American grown seed if desired. Other sorts likely to be of interest and worth trying in certain districts are :—**Yates' Vanguard, Yates' Utility, Copenhagen Market,** which are all of the early solid, round head type ; **Winningstadt,** a pointed cabbage but a sure header and good carrier, and in great favour in California ; and **Allhead** and **Surehead.**

Portion of a Cauliflower patch for market grown from Yates' Seeds at Barcaldine, Western Queensland.

PUMPKINS

The best table varieties are **Yates' Triamble,** a distinctive three cornered variety with very thick flesh, **Yates' Large Button or Ironbark, Yates' Sydney Crown.** Sow at the rate of 2 lbs. per acre during late Spring in hills about eight feet apart each way.

QUALITY COUNTS.

Mr. L. T. S., East Greenmount, Q'land., 15-6-26, writes :—" The Onion seeds, Hunter River Brown Spanish, received in April, have shot well in spite of adverse weather. I have found your seeds most satisfactory and always insist on having them. My only previous experience with Onions was in 1921 when I had two pounds of the same variety. At that time I raised Onions weighing just on 3½ lbs. The average of the first twenty bags was not less than 1 lb. **I HAVE BEEN ASKED WHY PAY 35/- WHEN YOU CAN GET SEED FOR 10/-? I KNOW.**

PROFIT FROM YATES' TOMATO SEED.

Mr. J. T. P., Gardener, Hawkesbury College, Richmond, 25-6-26, writes :—" I have been growing vegetables for close on twenty years, an during that time have tried almost every seed firm in N.S.W., but have always had the best results from your seeds, especially Earliana Tomato Seed. The record number of half-case Tomatoes taken from quarter acre was 800 odd, and these were grown from your seeds. Two years ago we broke all previous records as regards returns and **finished up by taking £271 off the ¼ acre.** I always make a point of recommending Yates' Reliable Seeds to all students working on the garden."

MARKET GARDEN CROPS—Continued

CAULIFLOWERS

These are somewhat uncertain, but where success is attained the profits are usually exceedingly satisfactory. The main thing is to grow them in good rich soil and rush them on quickly.

In dry weather they should be well watered, especially just after planting out.

Plant in December, January or February—this will generally give the best results.

Sow ½-lb. of seed for every acre of plants required. Varieties suitable include our two Specialities :—**Yates' Phenomenal Early** and **Yates' Phenomenal Maincrop**, which have done exceedingly well since introduced ; **Early Italian Giant, Veitch's Autumn Giant, Late Italian Giant,** and **Late Metropole,** which are self-protecting varieties, coming in from five to eight months in the order listed ; and **Early Short Stemmed Eclipse** and **Late Eclipse,** which are excellent market sorts of the open or Dutch type.

CUCUMBERS

Cucumbers are a paying proposition to many small farmers in moist, mild districts. The seed must be sown in the Spring, when all danger of frost is over, in hills about four feet apart each way. The soil must be in good condition and be liberally manured, and to produce fruit of true character the plants must not be checked in any way. About ½-lb. of seed is sufficient per acre.

For the Sydney market **Improved White Spine** is undoubtedly the best to grow, it is of medium length, thick and solid. **Long Green Prickly** is another good market sort.

ONIONS

Onions do best in rich adhesive loamy soil, which should be deeply worked. This is a crop which usually gives splendid returns, as shown by the high prices fetched by good onion land. We have dealt more fully with the growing of Onions in our Onion Booklet, which we will gladly post to anyone interested, gratis and post free.

For the warmer districts of N.S.W. and for Queensland **Yates' Hunter River Early Brown Spanish** is undoubtedly the finest variety. It will give a heavy crop of bulbs when the late varieties fail absolutely. Other very early sorts are **Yates' Light Skinned Spanish** and **Extra Early Golden Globe,** both splendid varieties.

For main crop in a suitable onion district there is only one variety, and the world over there is no finer market Onion offered. We refer of course to **Yates' Select Long Keeping Derwent Strain of Brown Spanish.** It is in great favour throughout Australia and the United States. About 3 lbs. of seed are required per acre.

PEAS

In the Highland districts around Sydney and on the Tablelands, many farmers now devote a portion of their holding to the growing of green peas for the Sydney market, and in recent years this has proved very profitable. The growing of peas or beans for the vegetable market is excellent practice from a rotation point of view ; it rests the land from ordinary farm crops, gives it the advantage of a leguminous crop, and leaves the land in an improved condition for succeeding crops. A fair quality of land and a reasonable use of suitable manure are advisable for the best results. **Yates' Selected N.Z. Grown Yorkshire Hero Peas** is the best main crop variety, but there are also now other sorts largely grown, such as Yates' Utility, Little Marvel, Witham Wonder, William Hurst, American Wonder, Richard Seddon, English Wonder, and Greenfeast, and we shall be pleased to quote on application. Usually 2 bushels per acre is a good sowing, and we advise sowing in drills far enough apart to permit of frequent horse cultivation in the early stages of the crop.

MELONS

There is always a demand for well grown stuff, and this applies particularly to the Rock Melon, which is such a favourite fruit. Both Water Melons and Rock Melons can only be sown in the Spring when the ground is warm. Light rich well manured soil and plenty of warmth and moisture will produce splendid crops. The Rock Melons particularly in favour for market growing are Rocky Ford, Gold-Lined Rocky Ford, and Honey Dew, the latter a late maturing, long-keeping sort, while in Water Melons growers usually ask for Kleckley's Sweets, Cuban Queen, Tom Watson, and Dixie.

TOMATOES

Tomatoes are now grown very extensively and are yielding very good returns to those marketing clean, sound, well-graded fruit.

For instructions and general information regarding Tomato culture for market, we would refer readers to our Tomato booklet (post free on application). This year we are offering varieties claimed to have more or less resistance to the wilt disease, and we believe that it is through this quality of " resistance " when more fully developed that the wilt disease will be overcome. In the meantime we suggest these varieties be tried out under growers' local conditions, and that the market crops, especially the early planted areas, be sprayed every fortnight with Lime Sulphur or Bordeaux Mixture.

The useful varieties for market are **Yates' Harbinger, Chalk's Early Jewel,** and **Yates' Market Favourite** for early crop, and **Burwood Prize, Targinnie Blue, Matchless** and **Large Smooth Red Stone** for main and late crop.

The different varieties only show their true character under favourable conditions ; two ounces should aise sufficient plants for one acre. See Yates' Annual for descriptions.

TURNIPS

The garden turnips, such as **White Stone** and **Nepau** are usually grown by the intensive market grower near the city, but the **Swede Turnip** is essentially a farmer's crop, and the Sydney market supplies come largely from the highlands of N.S.W. Sowings at the rate of 2 to 3 lbs. per acre should be made in February, March and April, in drills about 2 ft. 6 in. apart. The best variety is **Yates' Champion Purple Top,** a standard globe-shaped sort in regular demand in the markets. **Yates' Monarch** is another good sort.

PRICE LIST

SPRAYING PREPARATIONS

As many of these preparations are poisonous, they should be kept away from children and domestic animals.

" RELIABLE " ARSENATE OF LEAD.—For all chewing or leaf eating insects, such as pumpkin beetle, codlin moth, grubs, caterpillars, etc.

IN PASTE FORM (1 lb. making up to 30 gals. spray), in tins, 1 lb., 2s. 6d.; 2 lb., 4s. 6d.

IN POWDER FORM (1 lb. making up to 50 gals. spray), ¼ lb., 1s.; 1 lb., 3s. 6d.

YATES' " HAROLA " LIME SULPHUR.—For all fungus diseases, such as black spot, mildew, rust, etc. 1 gal. makes 10-40 gal. spray, according to purpose. In sealed tins, 1 pt., 1s. 3d.; 1 qt., 1s. 9d.; ½ gal., 2s. 1 gal., 3s. 6d.; 2 gals., 6s. 6d.; 4 gals., 8s.; 5 gal. drums, 10s.; 42gal. casks, 1s. 9d. per gal. (casks, 7s. 6d. extra, returnable).

" RELIABLE " BORDEAUX MIXTURE—For Irish Blight on potatoes and similar tomato diseases. (1 lb. makes up to 10 gal. according to purpose required). POWDER.—Per ¼ lb., 9d.; per 1 lb., 2s.; over 10 lbs., per lb., 1s. 9d.

BLIGHTY MIXTURE.—For spraying potatoes, grape vines, and tomatoes (1 lb. makes up to 6 gals.). POWDER.—1 lb., 1s. 9d.; 7 lbs., 10s. 6d.; 20 lbs., 27s. 6d. Special prices for large quantities.

HARBAS.—For scale, woolly aphis, etc., on fruit trees (1 lb. makes 20 to 30 gals. spray). Per 1 pint, 1s. 6d.; 1 quart, 2s. 3d.; ½ gal., 3s. 6d.; 1 gal., 6s.; 2 gals. 11s.; 4 gals., 17s. per tin; 42 gal. casks, 4s. per gal. (casks, 7s. 6d. extra, returnable).

BENZOLE EMULSION (in paste form)—For thrip, aphis, and Rutherglen Fly, 1 lb. makes 5 gals. spray. Per 1 lb. tins, 1s. 9d.

NICOTEEN EFFECTO—For aphis, green fly, etc. Per bottle, to make 6 gals., 1s. 3d.; to make 12 gals., 2s. 3d.; to make 24 gals., 3s. 6d.; to make 48 gals., 6s.; to make 96 gals., 11s.

BLACK LEAF 40.—For aphis, green fly, etc. Per bottle, to make 8 gals., 1s. 6d.; to make 16 gals., 2s. 6d.; to make 32 gals., 4s. 3d.; to make 64 gals., 7s. 6d.; to make 128 gals., 12s. 6d.]

" XL " ALL NICOTINE LIQUID INSECTICIDE.—Very effective and entirely free of any objectionable odour. 1 pint, 5s.; 1 quart, 9s.; 1 gall., 27s. 6d.

N.B.—No prices in this book include freight or postage, which is extra in all cases.

Follow the instructions when mixing sprays, as the right strength in many cases varies with the season of the year, and with the crop to be sprayed. Mix thoroughly when preparing for use, and keep fluid agitated to preserve uniform strength.

SPRAY PUMPS SYRINGES ATOMIZERS, Etc.

Select a good Pump, and after each use pass clean water through it to keep the valves and working parts in good order.

THE CRESCENT SPRAY PUMP.—For use with bucket or kerosene tin (Success pattern). For private gardens or very small orchards, this is a very good pump. It has a foot adjustment, so that it can be used with an ordinary bucket, which, by the way, should be of wood if solutions of copper are used. It is all brass, with ball valves, and is well made. It is fitted with three feet of half-inch delivery hose, a 14-inch brass lance, and a patent Bordeaux nozzle, which will deliver the water either in a solid stream or a coarse or fine spray. Price, 30s.; with 5 ft. hose without lance, 32s. 6d. Postage extra, N.S.W., 2s. 3d.; other States, 4s. 2d.

For prices of extensions, etc., see following list.

THE MYSTO KNAPSACK SPRAYER, No. 1—(Eclair pattern). These are splendid pumps for general use, well designed and strongly made. They are easily carried on the shoulders. These are used very largely in Great Britain for spraying potatoes for Irish Blight, as well as for fruit, trees, etc. We can thoroughly recommend them, especially for spraying Bordeaux Mixture. The tank is made of copper, and there is a good agitator. Pump is fitted with a double Vermorel nozzle. Price, £5, freight extra.

THE MYSTO KNAPSACK SPRAYER, No. 3.—The same as No. 1, but well coated with tin internally, to prevent corrosion when using Lime Sulphur. Price, £5 10s., freight extra.

PUMP SUNDRIES.—Brass Lance Extension and Tap, 2ft., 5s. 6d.

Bent Brass Extensions (6in. elbows)	2s.
" Blind " Caps for Vermorel type nozzles, permitting one to be closed	1s.

HOSE FOR SPRAY PUMPS.—Strong well made hose for " Crescent " and " Mysto " and other similar pumps, per foot .. .. 1s. 3d.

ATOMIZERS.—Cheap and efficient implements, producing a very fine misty spray.

Excelsior (Oxidised Tin)	3s. 6d.
Favourite (Tin)	3s.

SYRINGES.—In Brass, with one rose and jet, 14 x 1¼, 6s. 6d.; 16 x 1½, 7s. 6d.; 18 x 1½, 8s. 6d.

NOZZLES—

Bordeaux—One of the most generally useful made	7s. 6d.
Mysto (Vermorel type), double swivel	8s.
,, Hose nozzle	4s. 6d.
Gem hose nozzle, ½ inch and ¾ inch ..	3s. 9d.

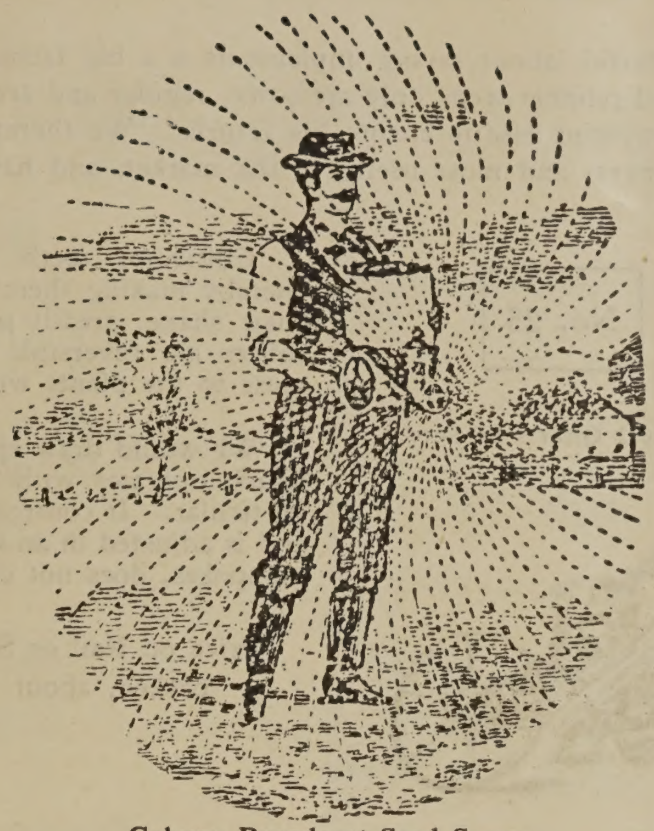
Spray consistently. It is easier to prevent diseases and combat them at an early stage than to deal with them when serious and widespread.

BROADCAST SEED SOWERS

FOR sowing broadcast Lucerne, Clovers, Sudan Grass, Millets, Pasture Grasses, etc., and small areas of Seed Grain, these machines are excellent. We use them on our own farms for sowing Lucerne, Clovers, etc., and we find them of considerable value.

CAHOON BROADCAST SEED SOWER.

A strong well-made machine capable of giving long and satisfactory service. Having filled machine and set gauge as per instructions, commence walking at ordinary pace, giving handle one complete turn each step. This will give a fine even sowing. Price, 35s.



Cahoon Broadcast Seed Sower.

CYCLONE BROADCAST SEED SOWER.

A neat simple machine which has proved very satisfactory in service. The seed is distributed horizontally, the power being obtained by a cranked handle very conveniently placed. Price, 26s.

COLUMBIA BROADCAST SEED SOWER.

Practical, neat, and mechanically correct in construction. Distributes seed evenly and has an automatic cut off. Accurate measuring device. Price, 26s.

FIDDLE SOWING MACHINE.

In this machine the action is obtained by a cross motion backwards and forwards, which is preferred by some. Price, 26s.

Yates' Manures and Fertilizers

For Bag Lots or over, write for Quotations.

HEAVY and continuous farm crops and good quality flowers and vegetables cannot be grown without manure. Manuring comes next in importance to physical condition of soil, which in turn is dependent on proper drainage, preparation and cultivation of land.

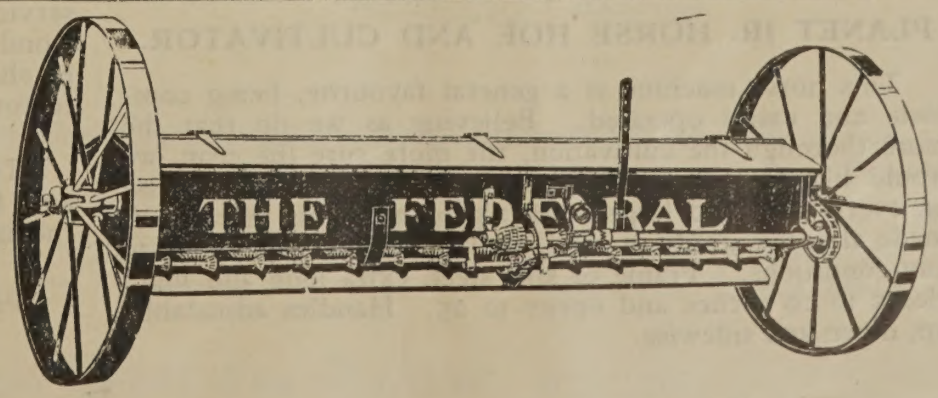
Ordinarily there is nothing to equal stable or farmyard manure, but for farm use it is impossible to obtain in Australia in required quantities. Artificial manures, however, have a very great value, especially if the humus content of the soil is kept up by crop rotation and green manuring. For general purposes superphosphate is an excellent fertilizer, but the following special manures are superior for their respective crops.

Manures.	Ton.	Cwt.	56lbs.	28lbs.	14lbs.	7lbs.
	£ s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Superphosphate	6 5 0	7 6	4 0	2 3	1 3	0 9
Bonedust	9 15 0	11 0	5 6	3 0	1 9	1 0
Blood and Bone	9 15 0	11 0	5 6	3 0	1 9	1 0
Hydrated Lime	10 10 0	12 6	6 3	4 6	2 6	1 6
Sulphate of Ammonia	19 0 0	20 0	10 0	5 6	3 0	1 9
Sulphate of Potash	19 0 0	20 0	10 0	5 6	3 0	1 9
Nitrate of Soda		20 0	10 0	5 6	3 0	1 9
Yates' Plant Food		16 6	8 3	4 3	2 3	1 3
A.Y. Sweet Pea Manure		17 6	8 9	4 6	2 6	1 6
A.Y. Flowers and Shrubs Manure		15 6	8 0	4 3	2 3	1 3
A.Y. Potato and Tomato Manure		16 6	8 6	4 6	2 6	1 6
A.Y. Cabbage and Cauliflower Manure		15 6	8 0	4 3	2 3	1 3
A.Y. Onion Manure		15 6	8 0	4 3	2 3	1 3
A.Y. Pea and Bean Manure		12 0	6 6	3 6	2 0	1 3
A.Y. Pumpkin and Melon Manure		15 6	8 0	4 3	2 3	1 3
A.Y. Lucerne and Clover Manure		12 0	6 6	3 6	2 0	1 3
A.Y. Maize and Green Fodder Manure		15 0	7 9	4 0	2 3	1 3
A.Y. Maize (for Grain) Manure		13 0	6 9	3 6	2 0	1 3
A.Y. Stone Fruit & Strawberry Manure		15 6	8 0	4 3	2 3	1 3
A.Y. Citrus, Passion & Grape Manure		16 6	8 3	4 3	2 3	1 3
A.Y. Special Lawn Manure		16 6	8 3	4 3	2 3	1 3
A.Y. Rape and Root Crop Manure		13 0	6 9	3 6	2 0	1 3
A.Y. Hay and Pasture Manure		13 0	6 9	3 6	2 0	1 3
Powdered Carbonate of Lime, 5s. 6d. bag						

Prices on Application

The "FEDERAL"
LIME AND FERTILIZER SPREADER

For enriching pasture lands and cropping areas. Well and strongly made in 6 ft., 9ft. and 12ft. sizes, the 9ft. being the standard size. All particulars on application.



PLANET JR. IMPLEMENTS

THE intelligent use of these wonderful labour saving implements is a big factor in the successful working of market gardens, orchards, etc. Provided reliable seeds only are sown, regular and accurate planting, followed by consistent cultivation, will do more than anything else to ensure big returns. We therefore offer the following machines with every confidence. They are the strongest and most useful in the market, and have an excellent reputation for design and durability.

No. 25

The Combined Hill and Drill Seeder, Double and Single Wheel Hoe, Cultivator and Plow. A Most Useful Tool for Large Gardens. All particulars on application.

PLANET JR. COMBINED HILL & DRILL SEEDER DOUBLE AND SINGLE WHEEL HOE CULTIVATOR AND PLOUGH.

An excellent hand machine for either garden or farm. As its name indicates, it is a well designed tool, combining the functions of an efficient seeder for sowing in drills and in hills, a double wheel and a single wheel hoe, a cultivator and garden plough. It will sow almost all varieties of seeds, and this, together with its many other uses, makes it one of the most useful tools one can have.

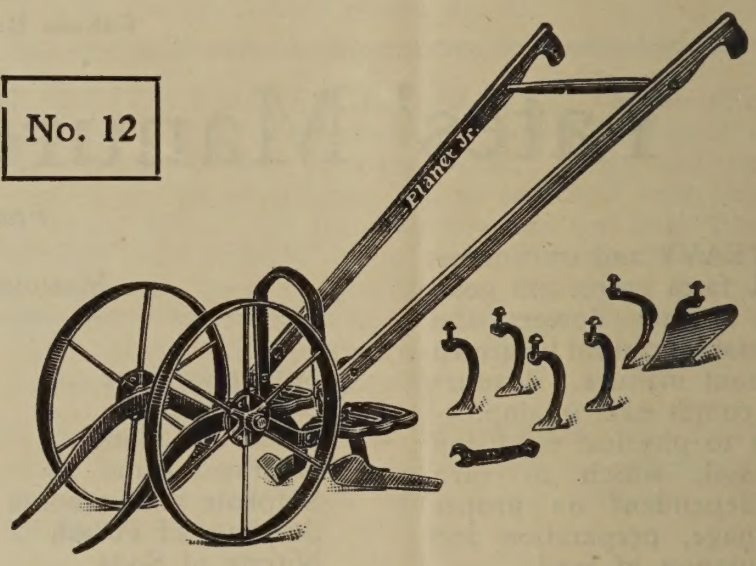
Price on Rail or Steamer, Sydney. Weight, packed, about 60 lbs. £5 17 6

Cultivator teeth are of high carbon bevelled steel, thereby making them self-sharpening, and the points retain their shape, greatly prolonging the life of the steel. Patent hillers are reversible for hoeing or hilling. Can be run close to the plants without endangering the roots.

We would draw special attention to the depth regulator, which operates with the wheel lever. It is an important particular. It controls the depth and steadies the machine, and is adjusted in an instant. The solid steel wheel, having no spokes, does not clog with sticks, stones, or trash.

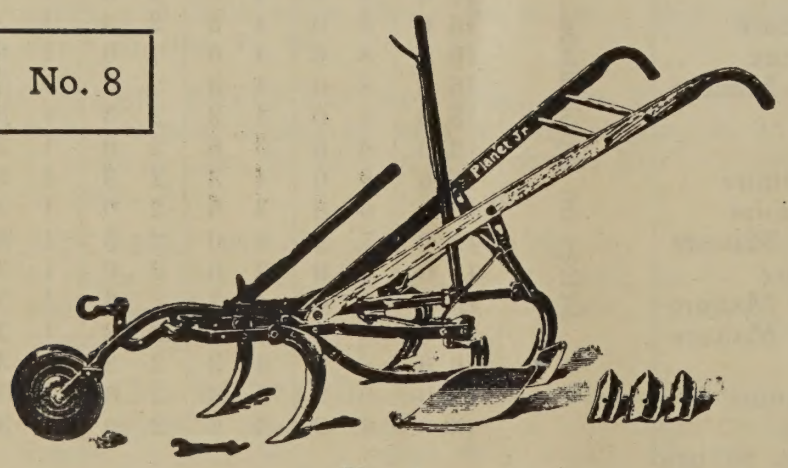
Price on Rail or Steamer, Sydney. Weight, packed, about 84 lbs. £5 15 0

No. 12



No. 12.

No. 8



No. 8

PLANET JR. HORSE HOE AND CULTIVATOR.

This horse machine is a general favourite, being complete and easily operated. Believing as we do that the more thorough the cultivation, the more sure the crop, we would like to see at least one of these implements in use on every farm and large market garden. This machine is made almost entirely of steel, well braced and adaptable to any conditions. Frame of stiff steel, extra long and high, closes to 10 inches and opens to 25. Handles adjustable, up, down and sidewise.

PLANET JR. COMBINED DOUBLE AND SINGLE WHEEL HOE, CULTIVATOR AND PLOUGH.

A double and single wheel hoe in one, with high arch so that crops can be straddled until 20 inches high—ensuring quicker and cleaner work. It may then be used between the rows with one or two wheels. Will do almost any kind of garden work—ploughing, harrowing, hoeing, cultivating, opening furrows, covering and hilling, and useful throughout the season. Tools are of special design and specially hardened, giving great satisfaction and long service. The hoes are the most useful attachment and wonderful weed killers. All steel cultivator teeth for deep or shallow work, reversible ploughs for opening or closing furrows, and leaf lifters for late cultivation.

To work effectively the ground must be in a good loose and friable condition. In heavy and badly worked land the use of this implement is not satisfactory.

Price on Rail or Steamer, Sydney. Weight, packed, about 33 lbs. £3 0 0

No. 273R—16th AUGUST, 1926

639

Yates

LIBRARY
RECEIVED
★ OCT 6 1926 ★
U.S. Department of Agriculture.

CURRENT PRICE LIST

of Recleaned and Tested FARM SEEDS

CONDITIONS OF SALE AND NON-WARRANTY

We believe that all Seeds, Bulbs, and Roots sold by us are of the description and kind specified by us at the time of sale, but owing to the practical impossibility in many cases of being certain of this, we give no undertaking that such Seeds Bulbs or Roots will correspond with the description under which they are sold, and we make all sales subject to this condition. We further give no warranty, expressed or implied, as to their growth, description, quality or productiveness, and will not be in any way responsible for the crop. If the purchaser does not accept the goods sold to him on these terms, they are at once to be returned to us, and any money paid to us will be refunded.

ARTHUR YATES & CO. LTD.

ARTHUR YATES & Co LTD.
184 & 186 SUSSEX ST SYDNEY
POSTAL ADDRESS, 2707 C, G.P.O.
TELEGRAMS, SEEDSMAN SYDNEY

Yates Recleaned & Tested Farm Seeds
Current Price List

THE PRICES quoted herein are those ruling at this date. Quotations are subject to sales and to market fluctuations. Orders should be accompanied by remittance for the approximate amount of the order, and including freight when goods are required by coastal steamer or by passenger train. Please add exchange to country cheques. Orders sent by goods train are consigned, carriage forward (except to unattached platforms), unless we are otherwise instructed at time of order. We deliver seeds on rail or wharf, Sydney, after which seeds are on customer's account, and at his risk.

Grass and Fodder Seeds (except Seed Grain) are invoiced at net weights, and bags charged for. This is to buyer's advantage. Our terms for all Agricultural Seeds are strictly Net Cash. Samples of any lines sent for inspection.

GRASS SEEDS.

NATIVE VARIETIES.

	Per lb.
Danthonia (Wallaby Grass)	2/8
Mitchell Grass (Astrebla)	*
Australian Blue Grass (Andropogon)	7/–
Coolah Grass	*
Native Millet	*
Flinders Grass	*

INTRODUCED VARIETIES

	Per bus.	20 bus. & over Per bus.
Rye Grass, Perennial—		
Yates Extra Heavy Poverty Bay	16/–	15/9
Yates Special Old Pasture	9/6	9/3
Rye Grass, Italian—		
Yates Heavy Re-machined	8/5	8/2
Westerwoldicum Re-machined	8/5	8/2
Rye Grass, Wimmera (True)	20/–	*
Cocksfoot, Yates Ex. Heavy Re-machined	24/–	23/6
Prairie, Yates Finest Re-machined	9/3	9/1

	Per lb.	56 lb. & over Per lb.
Rhodes Grass	1/7	1/6
Paspalum Dilatatum—		
Yates Prime hand-shaken	1/6	1/5
Paspalum Compressum	1/7	1/6
Couch (Cynodon dactylon)	2/11	2/10
Tall Oat Grass (Avena elatior)	1/4	1/3
Phalaris Bulbosa, true Perennial variety	6/9	—
Awnless Brome Grass (Bromus inermis)	1/8	1/6
Poa pratensis (Kentucky Blue Grass)	2/7	2/5
Canadian Blue Grass (Poa compressa)	3/–	*
Poa trivialis	1/11	*
Poa nemoralis	2/11	*
Fescue, Hooker's or Giant	*	*
Fescue, Tall	1/6	1/5
Fescue, Chewings	1/6	1/5
Fescue, Meadow	1/4	*
Agrostis canina (Brown Top)	3/3	*
Agrostis vulgaris (Red Top	2/5	*
Agrostis stolonifera (Creeping Bent or Fiorin)	*	*
Teff Grass	1/–	*
Timothy	1/–	*
Meadow Foxtail	*	*
Crested Dogstail	2/6	*
Yorkshire Fog	9d.	*
Rib Grass, or Lamb's Tongue	7d.	*

	ROOTS Per 100	Per 1000
Elephant Grass (rooted cuttings)	8/6	*
Kikuyu Grass (roots only)	5/–	35/–

CLOVER SEEDS.

	Per lb.	28 lbs. & over Per lb.
White, Yates' AY Superfine	1/9	1/8
Cow Grass, Yates Superfine, N.Z.	1/7	1/6
Perennial Red, Yates' N.Z. grown	1/7	1/6
Perennial Red, Fine Imported	1/6	1/5
Crimson (Trifolium incarnatum)	11d	10d
Alsyke	1/8	1/7
Berseem (Egyptian Clover)	1/4	1/3
Subterranean Yates' AY	3/7	*
Strawberry (Shelled Seed) very scarce	22/6	*
English Yellow Trefoil (Medicago lupulina)	11d.	*
Lotus corniculatus	2/3	*
Lotus major	4/8	*
Lotus Angustissimus	*	*
Medicago orbicularis (Burrless Clover)	*	*
Medicago denticulata (Burr or Native Trefoil) Shelled Seed	1/6	*
Bokhara (Melilotus alba)	1/4	1/3

[PLEASE TURN OVER]

LUCERNE.

Yates' A. Y. Broadleaf Giant Upright—This is the proved best strain for all purposes and Australian conditions. For full information see Yates' Lucerne Booklet. Supplied only in sealed and branded bags

25 lbs. 2/2 lb.; 50 lbs. 2/1 lb.

Small lots under 25 lbs.	2/3	lb.
25 lbs. and over	2/2	lb.
50 lbs. and over	2/1	lb.
5 cwt. and over	2/-	lb.
10 cwt. and over	1/11	lb.

SUDAN GRASS.

The Great Summer Fodder Crop

Our samples are specially selected and thoroughly Re-machined and have been passed by the Dept. of Agric. as free of injurious Sorghum Hybrids.

Per lb.	8d.	lb.
56 lbs. and over	60/-	cwt.
5 cwt. and over	57/6	cwt.
10 cwt. and over	55/-	cwt.

MARKET GARDEN CROPS.

Peas—Greenfeast, Yates' Selected	45/-	bus.
„ English Wonder	42/6	bus.
„ Yorkshire Hero, Yates' Selected N.Z. Grown	40/-	bus.
Peas—Apply for Price List of other Varieties		
Beans—Canadian Wonder Yates' Selected	37/6	bus.
5 bag lots	36/6	bus.
„ „ „ Prime Re-cleaned	34/-	bus.
5 bag lots	33/-	bus.
Broad Beans—Early Long Pod	*	bus.
„ „ Yates' Dreadnought Long Pod	*	bus.
„ „ Broad Windsor	*	bus.
Other Vegetable Seeds—See Yates' Annual		

LEGUMINOUS CROPS.

(OTHER THAN CLOVER AND LUCERNE)

Market Beans—See Market Garden Crops		
Cow Peas—Black Seeded	27/6	bus.
„ „ —Clay Coloured (scarce)	27/6	bus.
Soy Beans—All varieties, see Catalogue	1/-	lb.
Velvet Beans	1/6	lb.
Mauritius Beans	1/-	lb.
Market Peas—See Market Garden Crops		
Peanuts—Large White Chinese	1/6	lb.
over 14 lbs.	1/4	lb.
„ Red Spanish	1/3	lb.
over 14 lbs.	1/1	lb.
Field Peas—(Prime Seed Samples)		
Grey or Partridge	14/-	bus.
Blue (good samples scarce)	18/-	bus.
Dun	14/-	bus.
Lupin, Annual Blue	17/6	bus.
Tares or Vetches—Golden	13/6	bus.
English Grey	14/6	bus.
Large Scotch Grey	18/3	bus.
Horse or Tick Beans	14/6	bus.
Kudzu Vine (in packets only)	1/-	pkt.

RYE CORN.

MILLET.

Japanese	22/- cwt.	3d.	lb.
White French	25/- cwt.	3½d.	lb.
Hungarian	25/- cwt.	3½d.	lb.
Pearl	*		lb.
Broom		7d	lb.

SEED OATS.

Owing to the scarcity of suitable samples and the consequent restriction in choice, we cannot undertake that Seed Oats will be absolutely free of Black Oats or Barley this season

Algerian—	Per bus.	28 bus. & over Per bus.
Yates' A.Y. Ex. Prime Re-machined	7/5	7/3
Prime Re-cleaned	6/10	6/8
Sunrise A. Y. Re-machined	8/-	7/11

SEED MAIZE.

SELECTED AND SPECIALLY RE-GRADED SAMPLES

	Per bus.	20 bus. & over Per bus.
Hickory King	11/-	10/9
Early Morn	17/6	17/3
Early Red Leaming (stock limited)	11/-	10/9
Silvermine (stock limited)	11/-	10/9
Early Red Hogan (stock limited)	11/-	10/9
Fitzroy	11/6	11/3
Ulmarra Whitecap	13/-	12/9
Manning White	11/-	10/9
Goldmine	11/6	11/3
Giant White	11/-	10/9
Funk's Early Yellow Dent	11/6	11/3
Wellingrove	11/6	11/3
Yellow Hogan	11/-	10/9

SORGHUM.

Black Sorghum	*	cwt.	* lb.
No. 34	*	cwt.	1/3 lb.
Early Ambercane	*	cwt.	* lb.
Sumac	*	cwt.	1/3 lb.
Planters Friend	50/-	cwt.	6d. lb.
Saccaline	50/-	cwt.	6d. lb.
Collier	*	cwt.	1/3 lb.
Honey	*	cwt.	1/3 lb.
No. 61	*	cwt.	9d. lb.
White African (very scarce)	*	cwt.	1/3 lb.

GRAIN SORGHUM.

White Yolo	*	lb.	Milo * lb.
Feterita	8d.	lb.	Manchu Kaoliang 1/3 lb.

SEED WHEAT.

Re-cleaned Samples from Select Stocks.

SEED BARLEY.

SOWING RAPE.

Yates' "AY" Dwarf Broadleaf Essex, 8d. lb.; 60/- cwt. 10 cwt. or over 57/6 cwt.

SUNDRY FODDER CROPS.

Artichokes (Jerusalem) tubers only (scarce)	*	cwt.
Buckwheat, Japanese (50 lbs. bus.)	15/-	bus.
Burnet, Sheeps'	*	lb.
Canary Seed (for sowing)	60/- cwt.	8d. lb.
Large Moroccan type	70/- cwt.	10d. lb.
Kale, Thousand Headed	2/6	lb.
Kale, Chou Moellier	3/6	lb.
Linseed (Flax)	6d.	lb.
Melons, Mixed Cattle	4/-	lb.
Mustard, Agricultural	1/2	lb.
„ „ 56 lbs and over	1/-	lb.
Pumpkin, Mammoth Cattle	7/-	lb.
Pumpkin. Gramma	*	lb.
Pumpkin, Mixed Cattle	4/-	lb.
Silver Beet	1/6	lb.
over 28 lbs.	1/3	lb.
Sunflower, Black Seeded	1/-	lb.
over 28 lbs.	10d.	lb.
Sunflower, Striped Seeded	1/2	lb.
over 28 lbs.	1/-	lb.
Old Man Salt Bush (Atriplex nummularia)	4/6	lb.
Creeping Salt Bush (Atriplex semibaccata)	4/6	lb.
Kurrajong (Sterculia diversifolia)	1/6	oz.
Tagosaste (so-called Tree Lucerne)	4/6	lb.

ROOT CROPS.

Mangold—Yates' Mammoth Long Red, Golden Tankard, Yellow Globe	1/6	lb.
Giant Half Sugar, White and Rose	1/9	lb.
Sugar Beet	1/9	lb.
Swedes—Yates' Champion Purple Top	2/-	lb.
28 lbs. or over	1/9	lb.
Yates' Monarch	2/-	lb.
28 lbs. or over	1/9	lb.
Field Turnips—Best Varieties	2/-	lb.
28 lbs. or Over	1/9	lb.
Field Carrots—Varieties	4/6	lb.

SEED POTATOES.

Write for Special Price List.

Lines marked * are not at present in stock, but supplies may be available a little later—write us.

ARTHUR YATES & CO. Ltd. 184-186 SUSSEX STREET, SYDNEY

Telegrams: "SEEDSMAN SYDNEY." Box 2707-C G.P.O.

Please Turn Over.

Robert G. Nall Ltd., Printers, Sydney

APPROXIMATE QUANTITIES TO SOW PER ACRE

And Weight in lbs. of varieties quoted per bushel

Farm Seeds

	Sow per acre if used alone
Danthonia	15 lb.
Mitchell Grass	2 to 3 lb.
Rhodes Grass	4 to 6 lb.
Paspalum Dilitatum	10 lb.
Paspalum Compressum	5 lb.
Couch Grass	10 lb.
Tall Oat Grass	20 to 30 lb.
Phalaris Bulbosa	6 to 8 lb.
Kilkuya Grass	2500 roots
Cocksfoot, 20 lb. bus.	1½ bus.
Prairie Grass 20 lb. bus.	1 to 2 bus.
Awnless Brome Grass	20 to 30 lb.
Rye Grasses. 20 lb. bus.	1½ to 2 bus.
Mixed Grasses, 20 lb. bus.	1 to 1½ bus.
Grasses and Clovers, Mixed	25 to 30 lb.
Clovers. sown alone	8 to 12 lb.
,, sowr with grasses	2 to 3 lb.
Subterranean Clover	3 to 4 lb.
Strawberry Clover	from 1 lb.
Lucerne, moist localities, broadcast	12 to 15 lb.
Lucerne, moist localities, drilled	8 to 12 lb.
Lucerne, dry districts	6 to 10 lb.
Cow Peas, drilled	10 lb.
60 lb. bus. broadcast	½ to 1 bus

	Sow per acre if used alone
Soy Beans, drilled	15 lb.
,, 60 lb. bus. broadcast	1 bus.
Velvet Beans, in wide drills	15 lb.
Market Beans, 60 lb. bus.	2 bus.
Peanuts nuts	30 to 40 lb.
,, shelled seed	10 lb.
Field Peas, 60 lb. bus.	2 bus.
Lupins, 60 lb. bus.	2 bus.
Tares or Vetches, 60 lb. bus.	1 to 2 bus.
Horse or Tick Beans, 60 lb. bus.	2 bus.
Maize, in rows for grain	8 to 12 lb.
Maize, 56 lb. bus., broadcast	1 to 1½ bus.
Sorghum, Broadcast	20 to 30 lb.
,, in drills	10 lb.
Grain Sorghum	4 to 6 lb.
Millet, broadcast	20 lb.
,, in drills	10 lb.
Sudan Grass	8 to 12 lb.
Seed Oats, 40 lb. bus.	2 bus.
Seed Wheat, 60 lb. bus., in drills for grain	¾ to 1 bus.
Seed Wheat, broadcast	1 to 2 bus.
Barley, 50 lb. bus.	2 bus.
Rye Corn, 60 lb. bus.	2 bus.
Sowing Rape	3 to 6 lb.
Sheeps Burnet	10 to 12 lb.
Sunflower, in rows	12 lb.
Artichokes	4 to 6 cwt.

	Sow per acre if used alone
Buckwheat, 50 lb. bus., broadcast	1 bus.
,, in drills	25 lb.
Canary Seed	17 to 20 lb.
Linseed	60 lb.
Cattle Melon	2 lb.
Cattle Pumpkin	1 to 2 lb.
Mustard	8 lb.
Silver Beet	4 lb.
Mangolds	5 lb.
Sugar Beet	8 lb.
Field Carrot	3 lb.
Swede Turnips	2 to 3 lb.
Potatoes	6 to 8 cwt.

Market Garden Crops

Garden Beans, 60 lb. bus.	2 bus.
Cabbage	½ lb.
Cauliflower	½ lb.
Cucumber	½ lb.
Melon, Water	2 lb.
,, Rock	¾ lb.
Onion	3 lb.
Peas, 60 lb. bus.	2 bus.
Pumpkin	2 lb.
Tomatoes	2 oz.
Turnip	2 to 3 lb.

YATES' PUBLICATIONS

SENT ON APPLICATION

Yates' Garden Guide

Specially written for Amateurs, 156 Page - 1/- post free

THE FOLLOWING ARE ALL POST FREE :—

Yates' Garden and Farm Calendar

Useful Planting Notes for Each Month.

Published January.

Yates' Autumn Reminder

Containing Novelties, Sweet Peas, Bulbs, etc.

Published January.

Yates' Autumn Farm Seed List

Published February.

Yates' Annual General Catalogue

Published March-April.

Yates' Spring Farm Seed List

Published July.

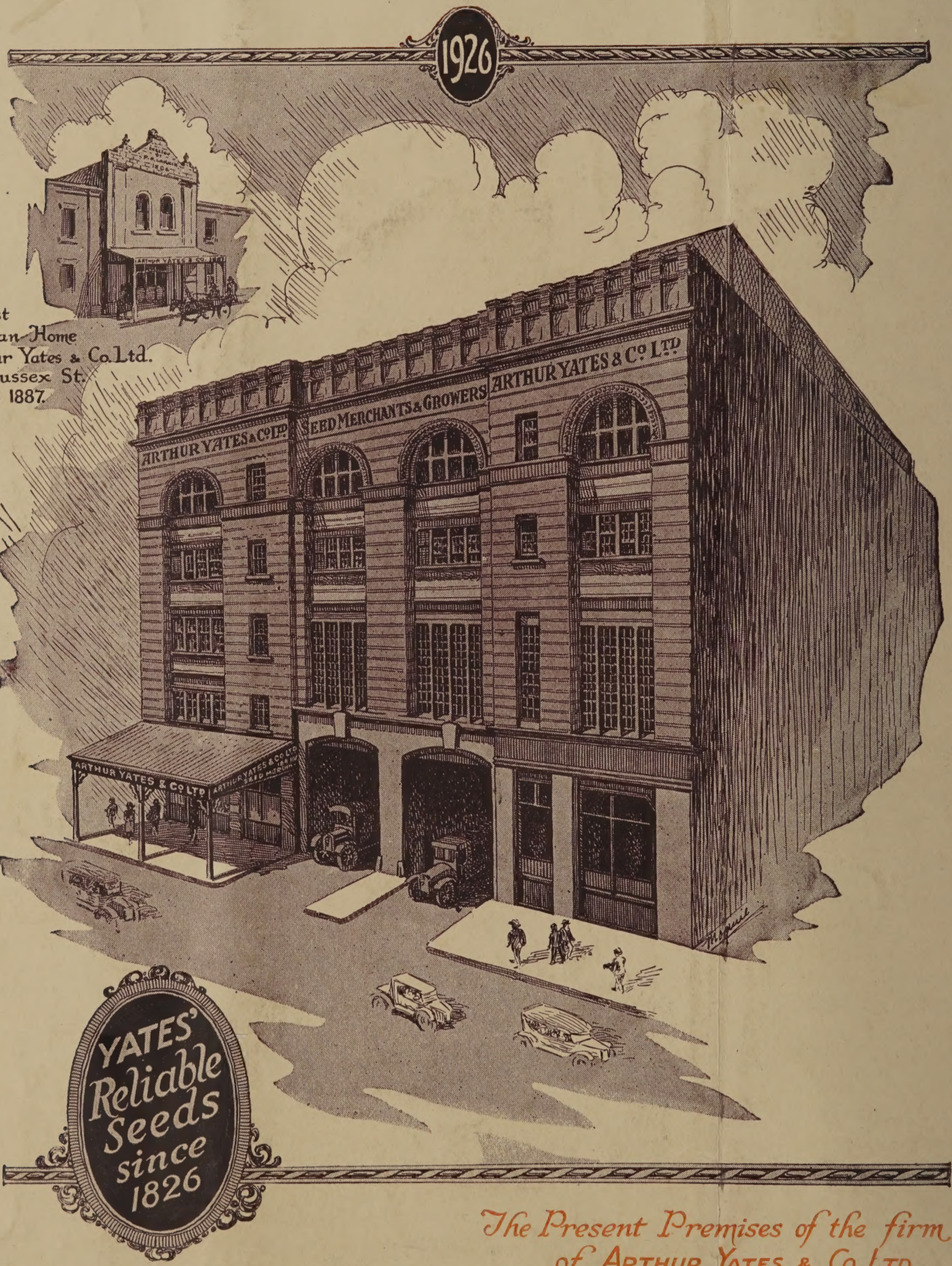
Yates' Spring Suggestions

Dahlias, Chrysanthemums, and Seasonable Flowers and Vegetables. Published August.

YATES' FREE BOOKLETS AND LEAFLETS

On LUCERNE, TOMATO, ONION and SWEET PEA CULTURE, etc., etc.

1826-1926—
and Still Growing



The First Australian Home of Arthur Yates & Co. Ltd. at 237 Sussex St. Sydney – 1887.

YATES' Reliable Seeds since 1826

The Present Premises of the firm of ARTHUR YATES & CO. LTD. *184-186 Sussex St. Sydney*

Catalogue wholly set up and printed in Australia by JOHN SANDS LTD., SYDNEY.